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ATLANTIC RICHFIELD COMPANY SITE CONCEPTUAL MODEL UPDATE

THIRD QUARTER

OCTOBER 15, 2007

Station No.: 5110 Address: 5731 East Firestone Blvd, South Gate
Atlantic Richfield Company Environmental Engineer/Phone No.: Mr. Darrell Fah / (714) 670-5228
Consulting Co./Contact Person/Phone No.: SECOR/Tony Wong / (805) 546-0455
SECOR Project No.: 37BP.05110.40
Primary Agency/Regulatory ID No.: LARWQCB Mr. Harry Nguyen/Case No. I-12074 (Priority B-2)
Other Agencies to Receive Copies: None

WORK PERFORMED THIS QUARTER [Third Quarter 2007]:

1. Conducted quarterly groundwater sampling and prepared SCMU Report.
2. On July 17, 2007 SECOR submitted a new application to the AQMD for a Site specific permit to operate new catalytic oxidizer SVE system under modified conditions.
3. Removed vapor-phase carbon adsorption system on July 30, 2007.

WORK PROPOSED NEXT QUARTER [Fourth Quarter 2007]:

1. Conduct quarterly groundwater sampling and prepare SCMU Report.
2. Pending AQMD approval and issuance of the new Site specific permit, complete installation and start-up of the new catalytic oxidizer SVE system under the modified conditions.
3. Pending approval, install oxygen diffusion system into wells A2 and A5, and onsite wells MW-20, MW-A4, MW-A3, and possibly MW-19.

SUMMARY OF SCMU UPDATES [Third Quarter 2007]:

The following Figures have been updated this quarter:

1. Figures 10 through 14, and Figure 16 have been updated with Third Quarter 2007 monitoring and analytical data.

The following Tables have been updated this quarter:

1. Table has been updated with Third Quarter 2007 monitoring and analytical data.

The following Graphs have been updated this quarter:

1. All Graphs have been updated and are included in the Graphs Section.

The following Appendices have been updated this quarter:

1. Appendix G has been updated with Third Quarter 2007 groundwater monitoring and analytical data.
2. Appendix I has been updated with Third Quarter 2007 SVE system information.
3. Appendix M presents Third Quarter 2007 laboratory reports and chain of custody.
4. Appendix N presents Third Quarter 2007 groundwater sampling and O&M field data sheets.
6. Appendix O includes Third Quarter 2007 waste disposal documentation.

SUMMARY OF SCMU DATA [Third Quarter 2007]:

Current Phase of Project:	Remediation	(Assmnt, Remed. etc.)
Frequency of Sampling:	AS/SVE Monthly/GW Quarterly	(Quarterly, etc.)
Frequency of Monitoring:	AS/SVE Monthly/GW Quarterly	(Monthly, etc.)
Separate Phase Hydrocarbons	No	(Yes/No)

Cumulative SPH Recovered to Date:	None	(gallons)
SPH Recovered This Quarter:	None	(gallons)
Bulk Soil Removed to Date:	~1,422	(cubic yards)
Bulk Soil Removed This Quarter:	None	(cubic yards)
Water Wells or Surface Waters (4000-ft radius) Radius & Their Respective Directions:	02S/12W-31Q03 1800'SW 02S/12W-31Q02 1800' SW	(Distance and Direction)
Current Remediation Techniques:	AS/SVE	(SVES, SPH)
Permits for Discharge:	N/A	(NPDES, POTW, etc.)
Approximate Depth to Groundwater:	Range: 49.53 to 51.95	(Measured Feet)
Groundwater Gradient:	South – Southeast	(Direction)
	0.003 feet/foot	(Magnitude)
Wells Purged and Sampled	11	
Total Number of Wells on-Site	5	
Monitored / Purged / Sampled	11 / 11 / 11	
Date of groundwater monitoring/sampling	August 7, 2007	
GRO Concentration Range:	33 J to 20,000	µg/L
Well with highest GRO Concentration:	MW-A4	
Benzene Concentration Range:	2.8 to 9,000	µg/L
Well with highest Benzene Concentration:	MW-A4	
MTBE Concentration Range:	<5.0 to 260	µg/L
Well with highest MTBE Concentration:	MW-A3	
TBA Concentration Range:	16 J to 2,300	µg/L
Well with highest TBA Concentration:	MW-20	
Ethanol Concentration Range:	<150 to <25,000	µg/L
Well with highest Ethanol Concentration:	N/A	
Cumulative Hydrocarbon Removed Via AS/SVE system	50,303	(pounds)
Hydrocarbons Removed Via AS/SVE this Quarter	0	(pounds)
AS/SVE System Up-Time this Quarter	0	(hours)
Percent Up- Time this Quarter	0	(percentage)
Co-mingled Plume	N/A	(Site I.D.)

Agency Directive Requirement:

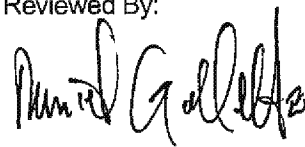
LARWQCB letter, Implementation of Final Draft Guidelines for Investigation and Cleanup of MTBE and Other Oxygenates, dated February 28, 2003 and August 27, 2003.+

Prepared By:



David Jain
Staff Scientist

Reviewed By:

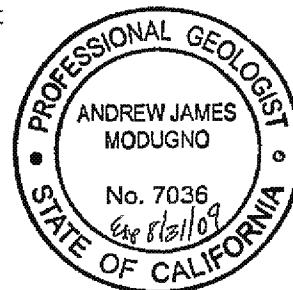
for 

Tony Wong
Associate Scientist

Approved By:



Andrew J. Modugno
Senior Geologist
P.G. No 7036



ATTACHED:

Figures

- Figure 1 – Site Location Map Showing Identified Wells Within a One-Mile Radius
- Figure 2 – Site Vicinity Map
- Figure 3 – Site Map Showing Soil Boring and Remedial Well Locations
- Figure 4 – Site Map Showing New UST, Shoring Boring, and Soil Stockpile Sample Locations
- Figure 5 – Site Map Showing Former UST, Product Piping, and Dispenser Sample Locations
- Figure 6 – Site Map Showing Hydrocarbon Concentrations in Soil
- Figure 7 – Site Map Showing Cross-Section Index
- Figure 8 – Cross-Section A-A'
- Figure 9 – Cross-Section B-B'
- Figure 10 – Groundwater Contour and Hydrocarbon Concentration Map
- Figure 11 – GRO Isoconcentration Map
- Figure 12 – Benzene Isoconcentration Map
- Figure 13 – MTBE Isoconcentration Map
- Figure 14 – TBA Isoconcentration Map
- Figure 15 – AS/SVE Well Locations and Theoretical ROI for SVE
- Figure 16 – Cumulative Pounds of Gasoline Range Organics Removed
- Figure 17 – Typical ISOC™ Vault Construction Detail

Tables

- Table 1 – Historical Soil Analytical Results
- Table 2 – Summary of Groundwater Analytical & Elevation Results
- Table 3 – Well Construction Details
- Table 4 – Summary of Wells Identified Within a One-Mile Radius
- Table 5 – Summary of Monthly EFR Activities (Discontinued)
- Table 6 – SVE Operation Report
- Table 7 – Summary of SVE Operation Data
- Table 8 – Summary of Process Vapor Sampling Results
- Table 9 – Summary of Individual Well Vapor Sample Analytical Results
- Table 10a, b – Individual Well - Field Monitoring Data
- Table 11 – Individual Air Sparge Well Monitoring Data
- Table 12 – Soil Vapor Extraction Daily Operation Logs

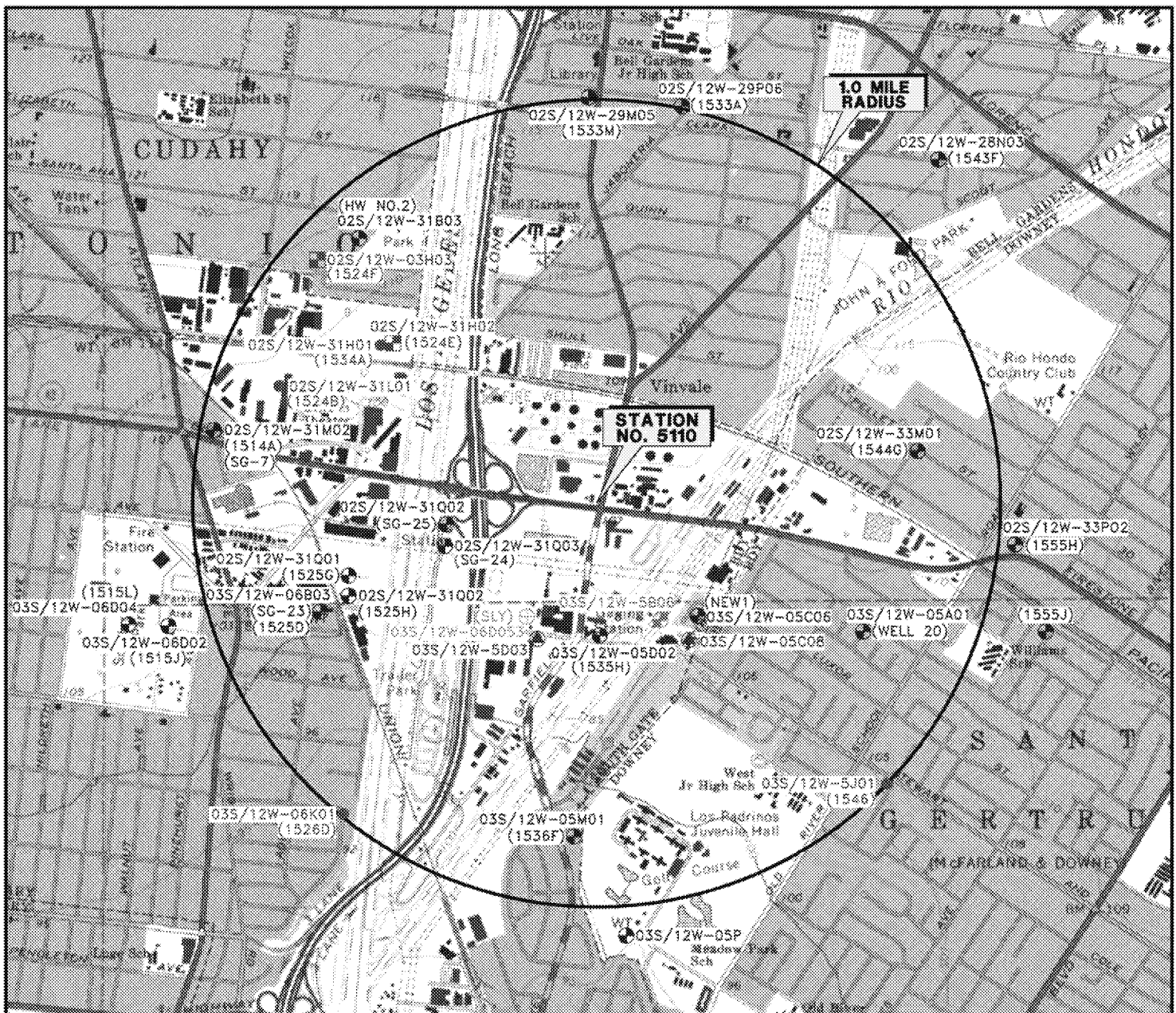
Graphs

Groundwater Well Hydrographs

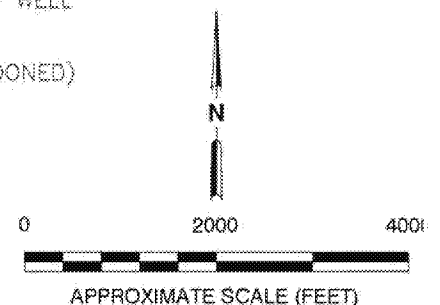
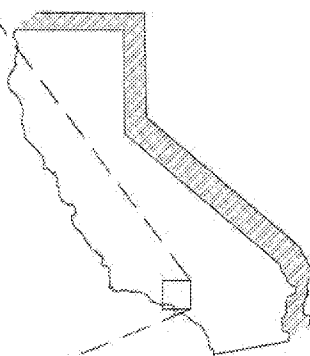
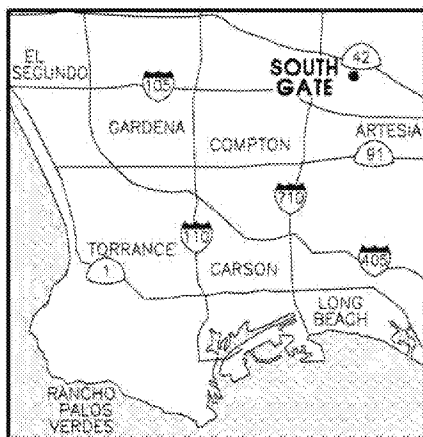
Appendices

Appendix A – Introduction and Site Description
Appendix B – Site Background
Appendix C – Historic Figures
Appendix D – Geology and Hydrogeology
Appendix E – Municipal Well Survey
Appendix F – Hydrocarbon Impacted Soil
Appendix G – Hydrocarbon Impacted Groundwater
Appendix H – Plume Travel Time Estimate
Appendix I – Historic Source Removal and Remediation Activities
Appendix J – Conclusions and Data Gaps
Appendix K – Standard Limitations
Appendix L – References
Appendix M – Agency Correspondence
Appendix N – Laboratory Reports and Chain of Custody
Appendix O – Groundwater Sampling and O&M Field Data Sheets
Appendix P – Waste Disposal Documents

FIGURES



SOURCE: USGS 7.5 MINUTE TOPOGRAPHIC MAP, SOUTH GATE QUADRANGLE, 1964
PHOTOREVISED 1981



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FOR:

ATLANTIC RICHFIELD COMPANY
STATION NO. 5110
5731 East Firestone Boulevard
South Gate, California

JOB NUMBER:

37BP.05110.40.0336

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CHECKED BY:

D. Jain

APPROVED BY:

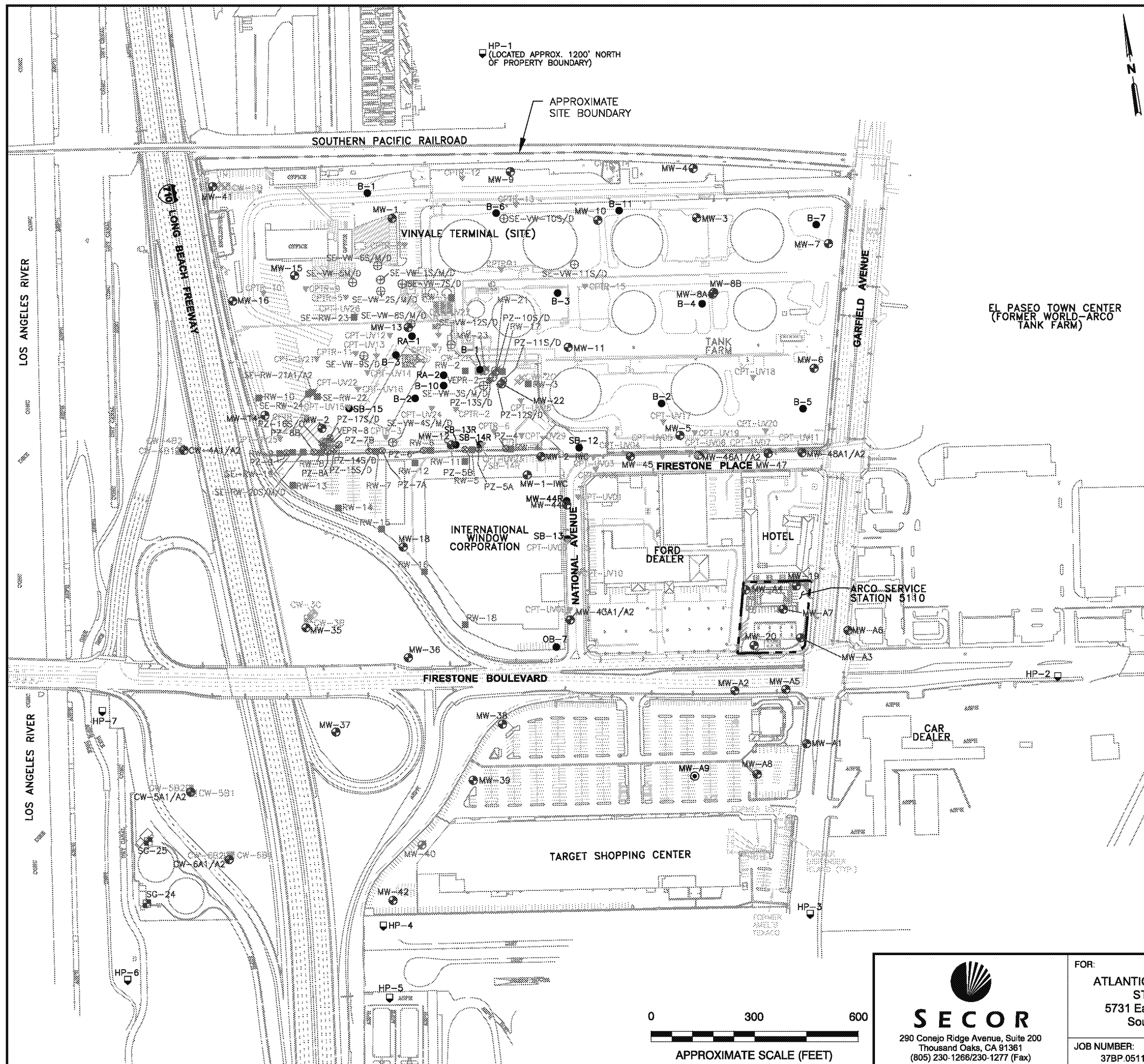
T. Wong

FIGURE:

1

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10/15/07




SITE MAP LEGEND

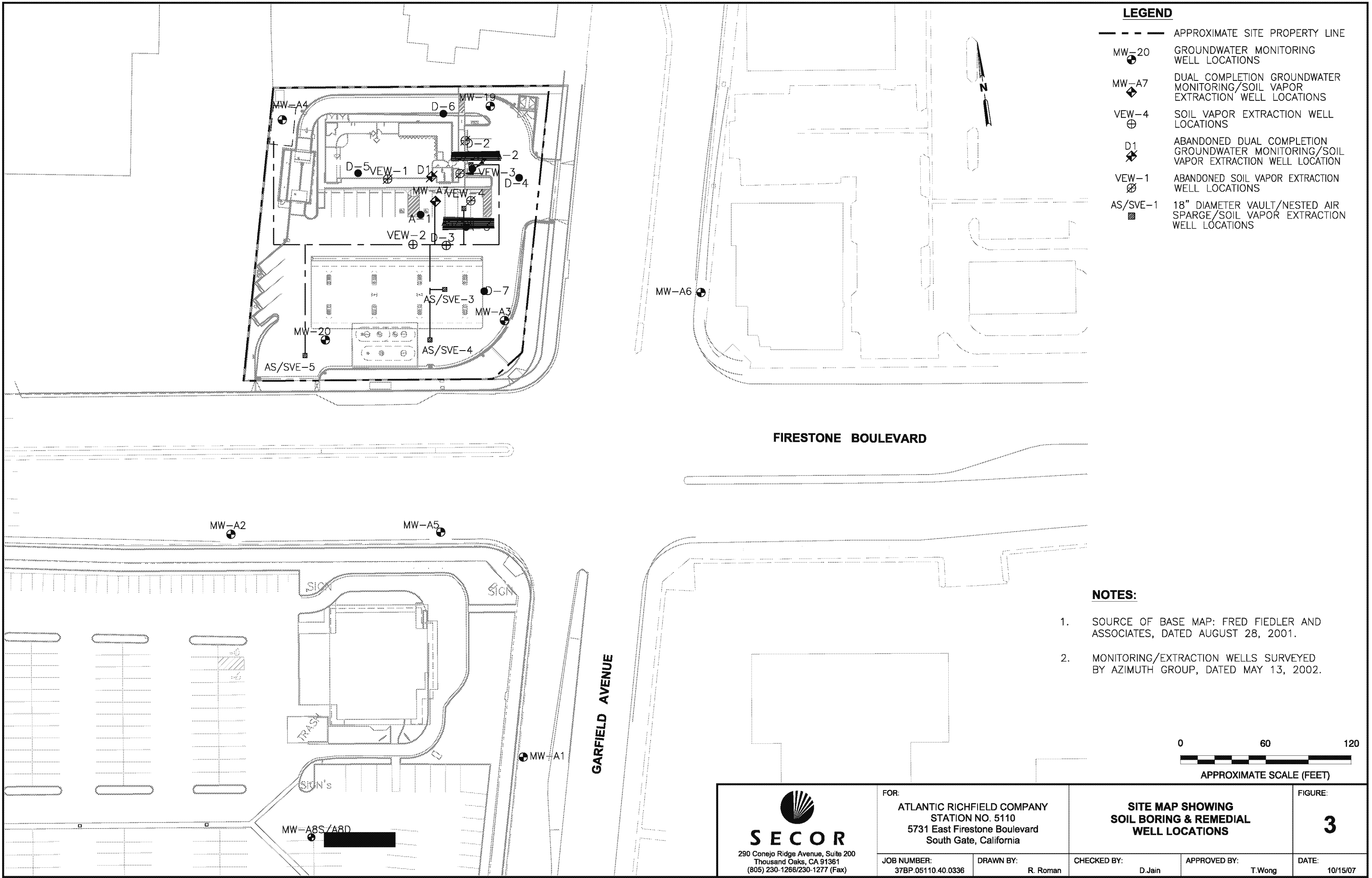
- APPROXIMATE SITE BOUNDARY
- ⊗ GROUNDWATER MONITORING WELL (SHALLOW HYDROSTRATIGRAPHIC ZONE & SHALLOW UNSATURATED ZONE)
- ⊗ GROUNDWATER MONITORING WELL (MIDDLE HYDROSTRATIGRAPHIC ZONE)
- ⊗ GROUNDWATER MONITORING WELL (DEEP HYDROSTRATIGRAPHIC ZONE)
- ⊗ FLUID RECOVERY WELL (SHALLOW HYDROSTRATIGRAPHIC ZONE)
- ⊗ PIEZOMETER WELL (SHALLOW HYDROSTRATIGRAPHIC ZONE)
- ⊗ VAPOR/FLUID EXTRACTION WELL (SHALLOW UNSATURATED ZONE)
- ▽ CPT/ROST LOCATIONS AND DESIGNATION (SHALLOW UNSATURATED ZONE)
- ⊗ CITY OF SOUTH GATE MUNICIPAL SUPPLY WELL
- ⊗ ABANDONED GROUNDWATER MONITORING WELL LOCATION AND DESIGNATION
- SOIL BORING LOCATION AND DESIGNATION
- ⊗ HYDROPUNCH SAMPLE LOCATION AND DESIGNATION
- ⊗ PROPOSED GROUNDWATER MONITORING WELL LOCATION (SHALLOW HYDROSTRATIGRAPHIC ZONE)

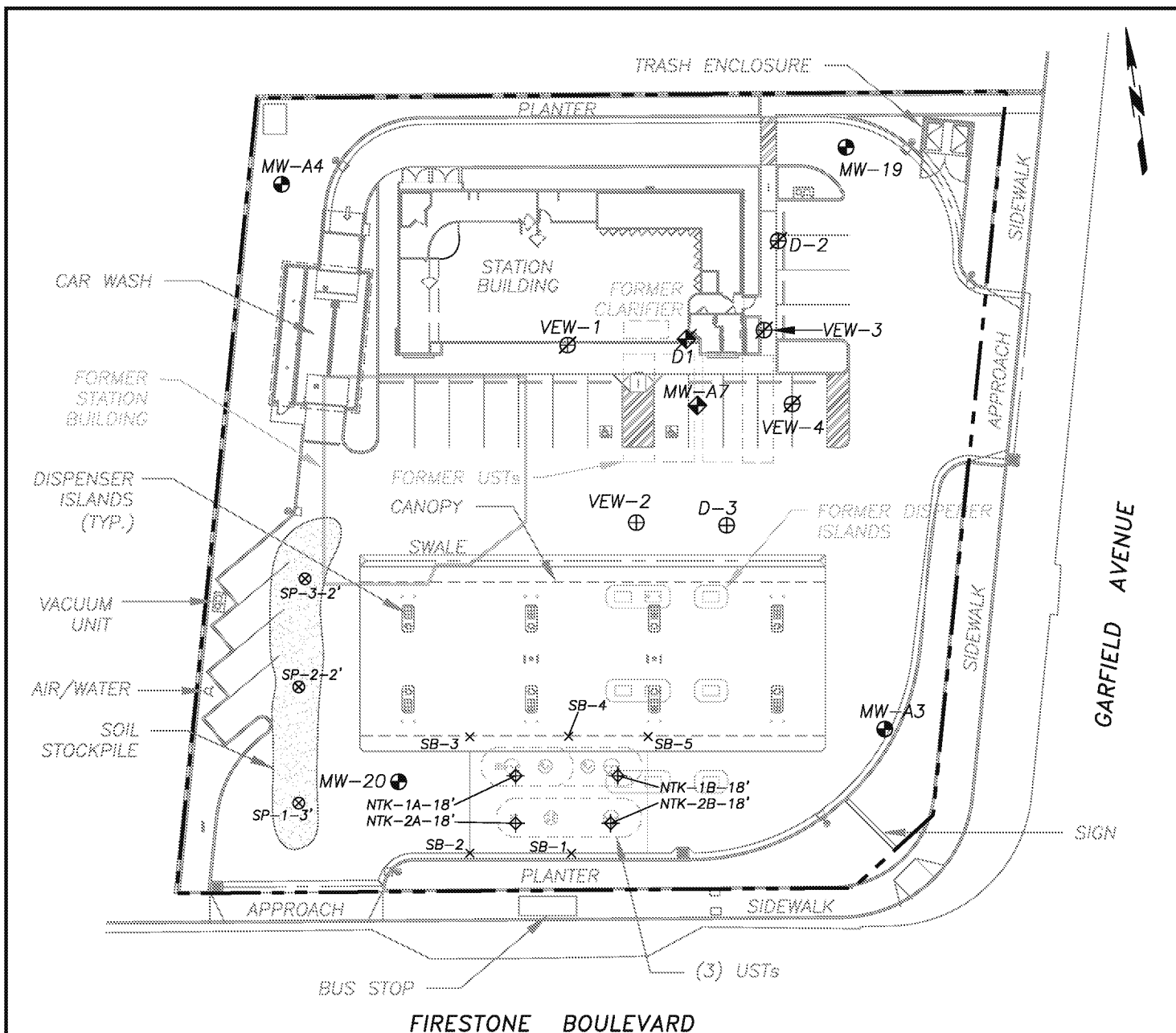
GENERAL SITE NOTES:

1. MAP REFERENCES; BASED ON ORTHOGRAPHICALLY RECTIFIED AERIAL PHOTOGRAPH BY I.K. CURTIS SERVICES INC., DATED MARCH 18, 2003. HISTORICAL DIGITAL DATA FILES FROM PACIFIC ENVIRONMENTAL GROUP INC., DATED AUGUST 10, 1999 AND SLS ASSOCIATES INC., DATED SEPTEMBER 25, 1995. 710 INTERSTATE REFERENCED FROM IWA ENGINEERS, DATED APRIL 4, 1996.
2. GROUNDWATER MONITORING WELLS, VAPOR EXTRACTION WELLS, ON-SITE AND OFF-SITE RECOVERY WELLS, AND PIEZOMETER LOCATIONS SURVEYED BY WM HOLDINGS INC., DATED MARCH 25, 2003, DECEMBER 3, 2004, JANUARY 27, 2005, MAY 2, 2005, JULY 6, 2005, AND OCTOBER 12, 2005. HORIZONTAL DATUM NAD 83 CALIFORNIA STATE PLANE ZONE 5 (FT.), VERTICAL DATUM NAVD 88, SITE FEATURES AND LOCATIONS ARE APPROXIMATE.

 SECOR 290 Conejo Ridge Avenue, Suite 200 Thousand Oaks, CA 91361 (805) 230-1266/230-1277 (Fax)	FOR: ATLANTIC RICHFIELD COMPANY STATION NO. 5110 5731 East Firestone Boulevard South Gate, California		SITE VICINITY MAP		FIGURE: 2
	JOB NUMBER: 37BP.05110.00	DRAWN BY: R. Roman	CHECKED BY: D. Jain	APPROVED BY: G. Roberts	DATE: 10/15/06

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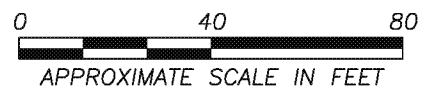


LEGEND

- APPROXIMATE SITE PROPERTY LINE
- MW-20 GROUNDWATER MONITORING WELL LOCATIONS
- MW-A7 DUAL COMPLETION GROUNDWATER MONITORING/ SOIL VAPOR EXTRACTION WELL LOCATIONS
- VEW-4 SOIL VAPOR EXTRACTION WELL LOCATIONS
- D-1 ABANDONED DUAL COMPLETION GROUNDWATER MONITORING/ SOIL VAPOR EXTRACTION WELL LOCATION
- VEW-1 ABANDONED SOIL VAPOR EXTRACTION WELL LOCATIONS
- NTK-1A-18' NEW UST ENCLOSURE SAMPLE LOCATIONS
- SB-1 SHORING SAMPLE LOCATIONS
- SP-1-3' SOIL STOCKPILE SAMPLE LOCATIONS

NOTES:

1. SOURCE OF BASE MAP: FRED FIEDLER AND ASSOCIATES, DATED AUGUST 28, 2001.
2. SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. MONITORING/EXTRACTION WELLS SURVEYED BY AZIMUTH GROUP, DATED MAY 13, 2002.



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P. Lam

APPROVED BY:

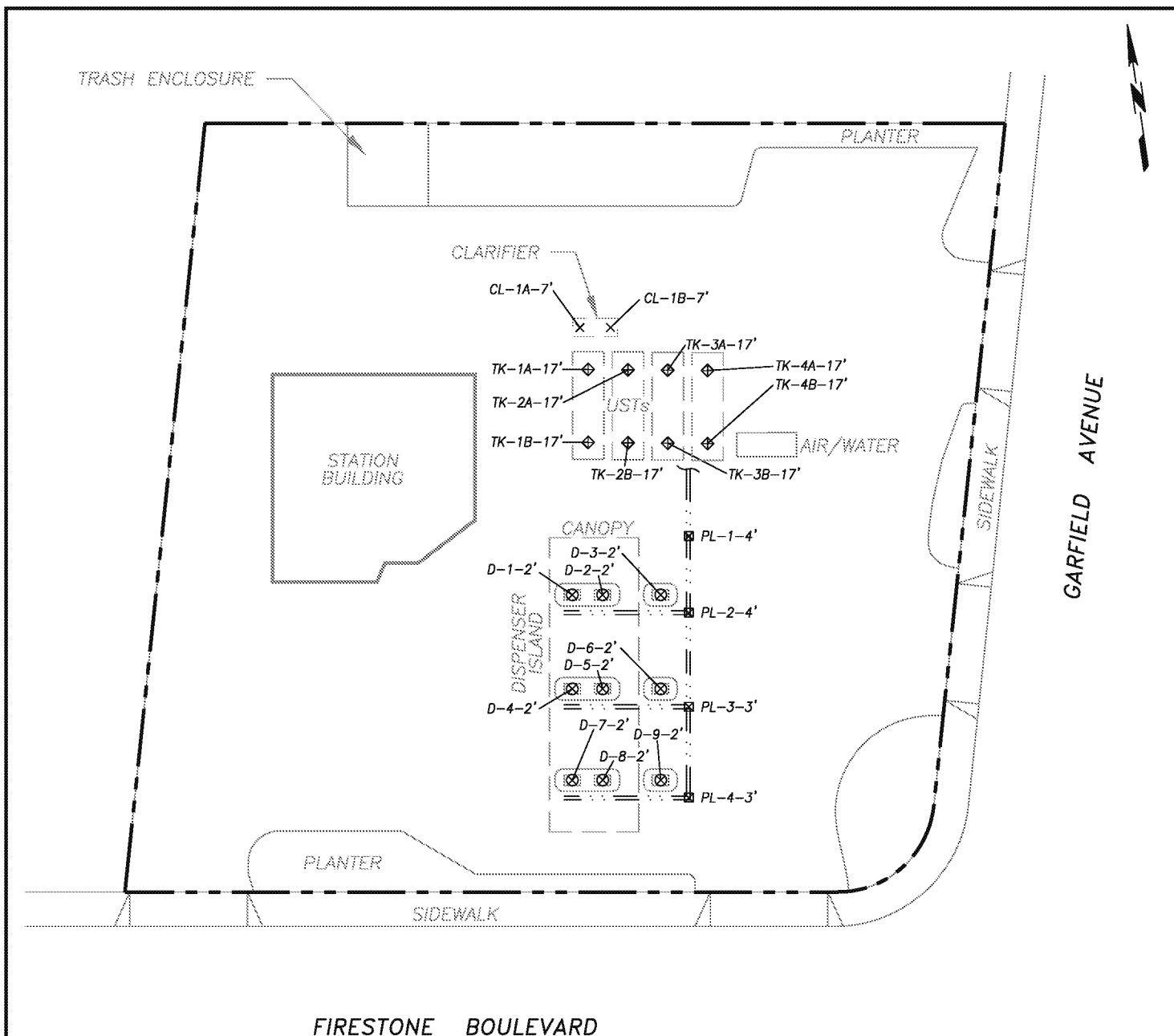
G. Roberts

FIGURE:

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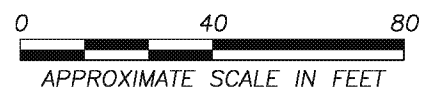


LEGEND

- APPROXIMATE SITE PROPERTY LINE
- PRODUCT PIPING LOCATIONS
- D-1-2' DISPENSER SAMPLE LOCATIONS
- PL-1-4' PRODUCT LINE SAMPLE LOCATIONS
- TK-1A-17' USTs SAMPLE LOCATIONS
- CL-1A-7' CLARIFIER SAMPLE LOCATIONS

NOTES:

1. NOT A SURVEYED MAP, SITE FEATURES AND LOCATIONS ARE APPROXIMATE.



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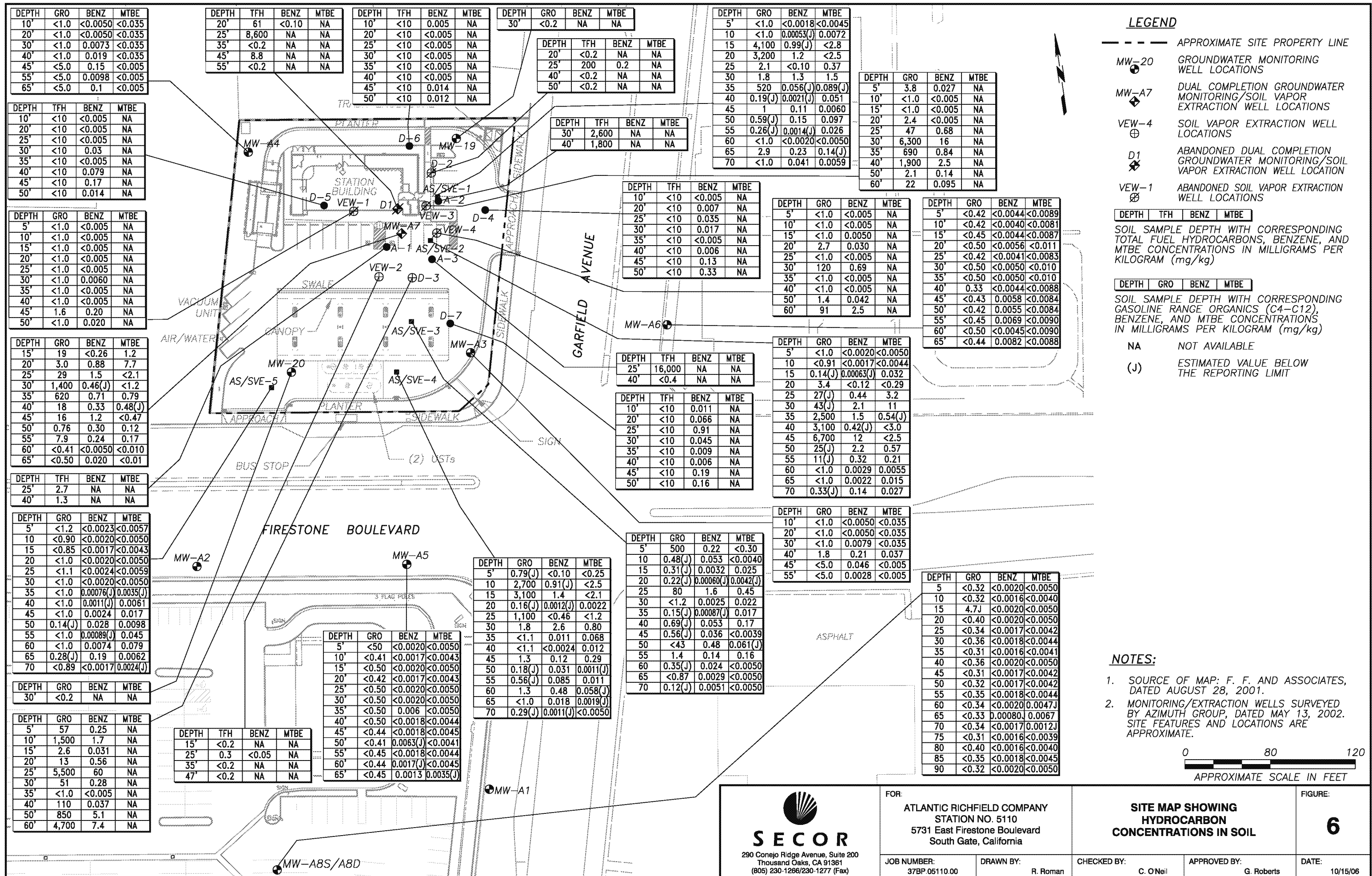
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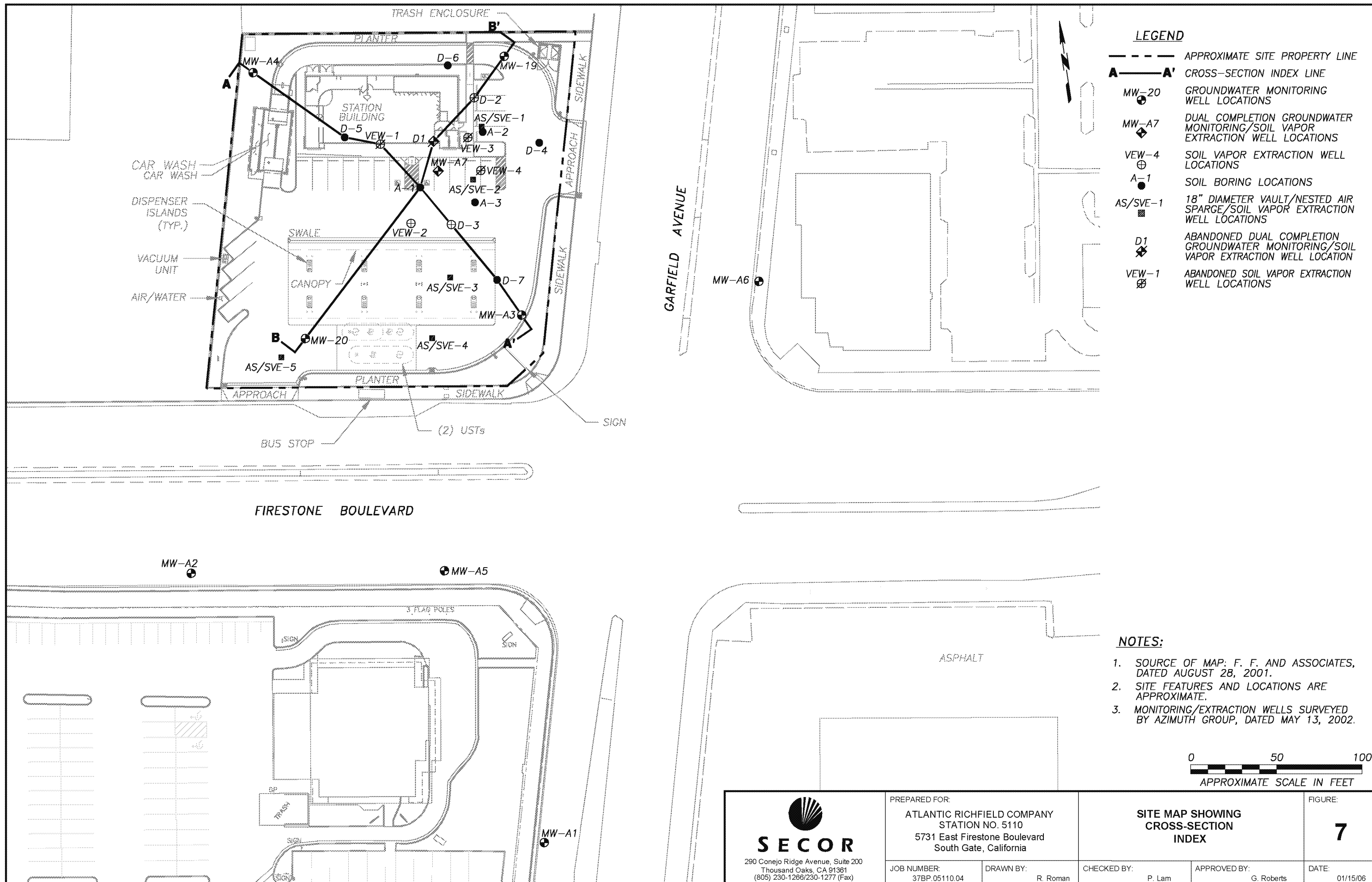
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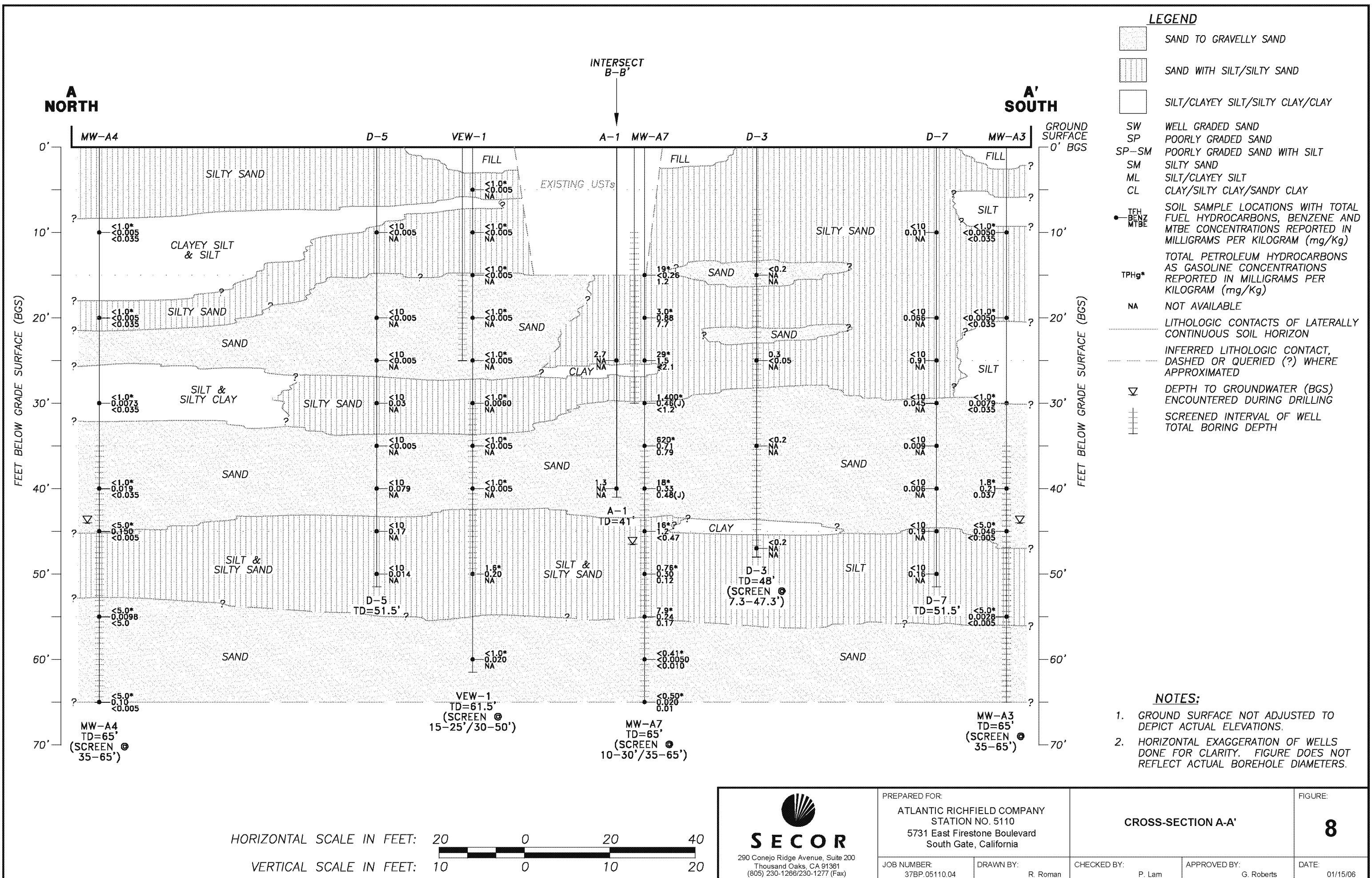
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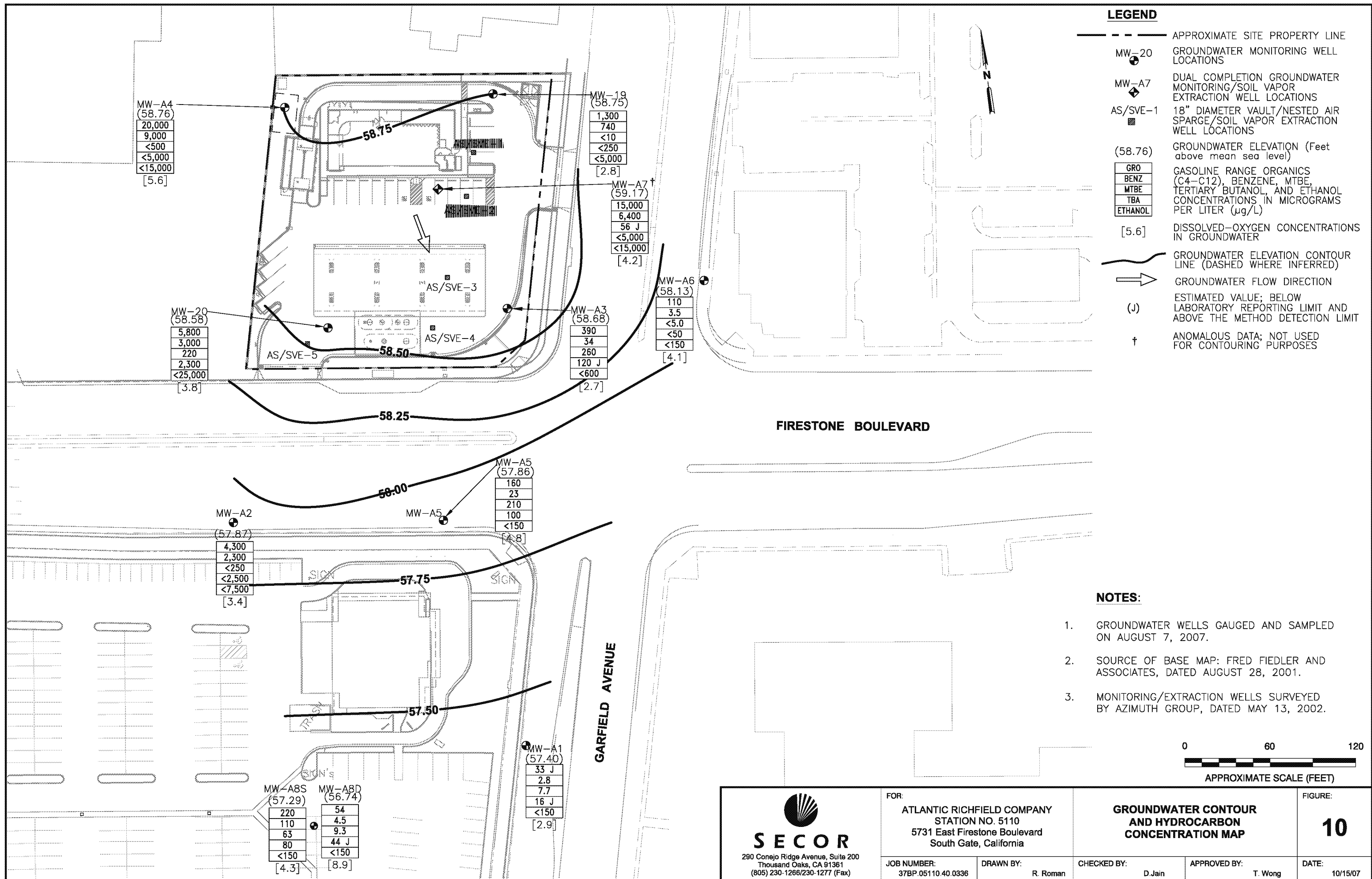
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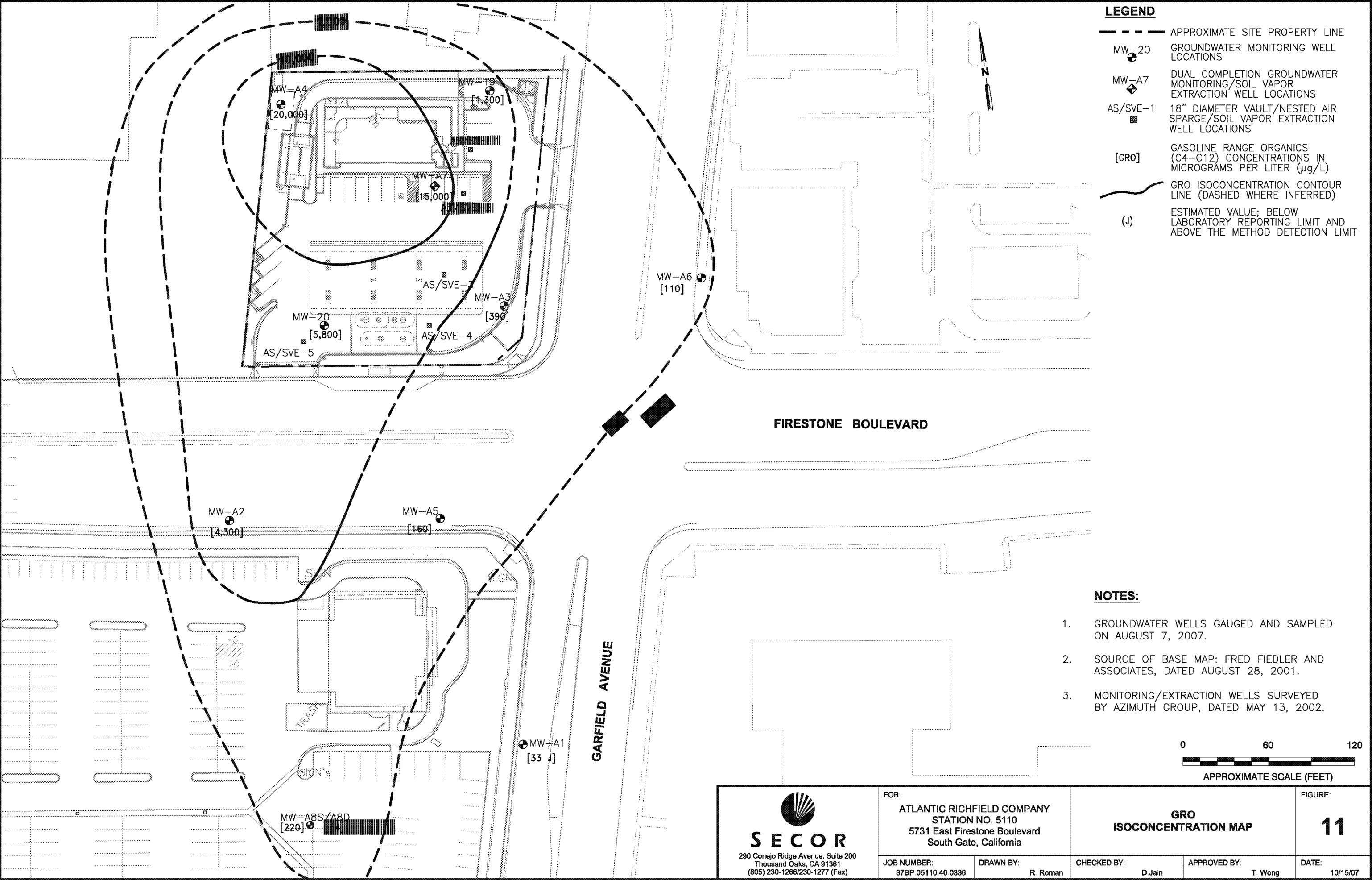
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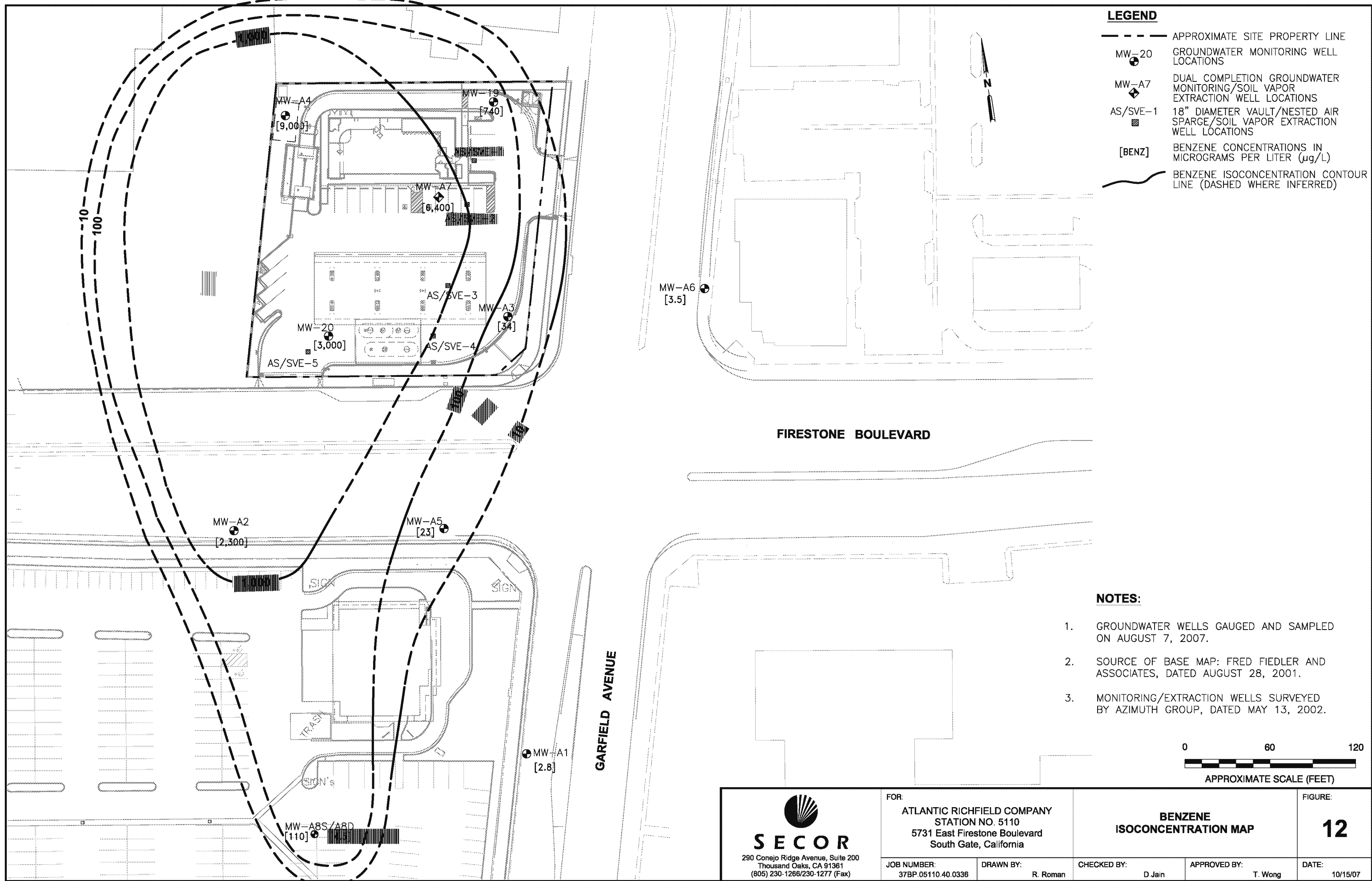


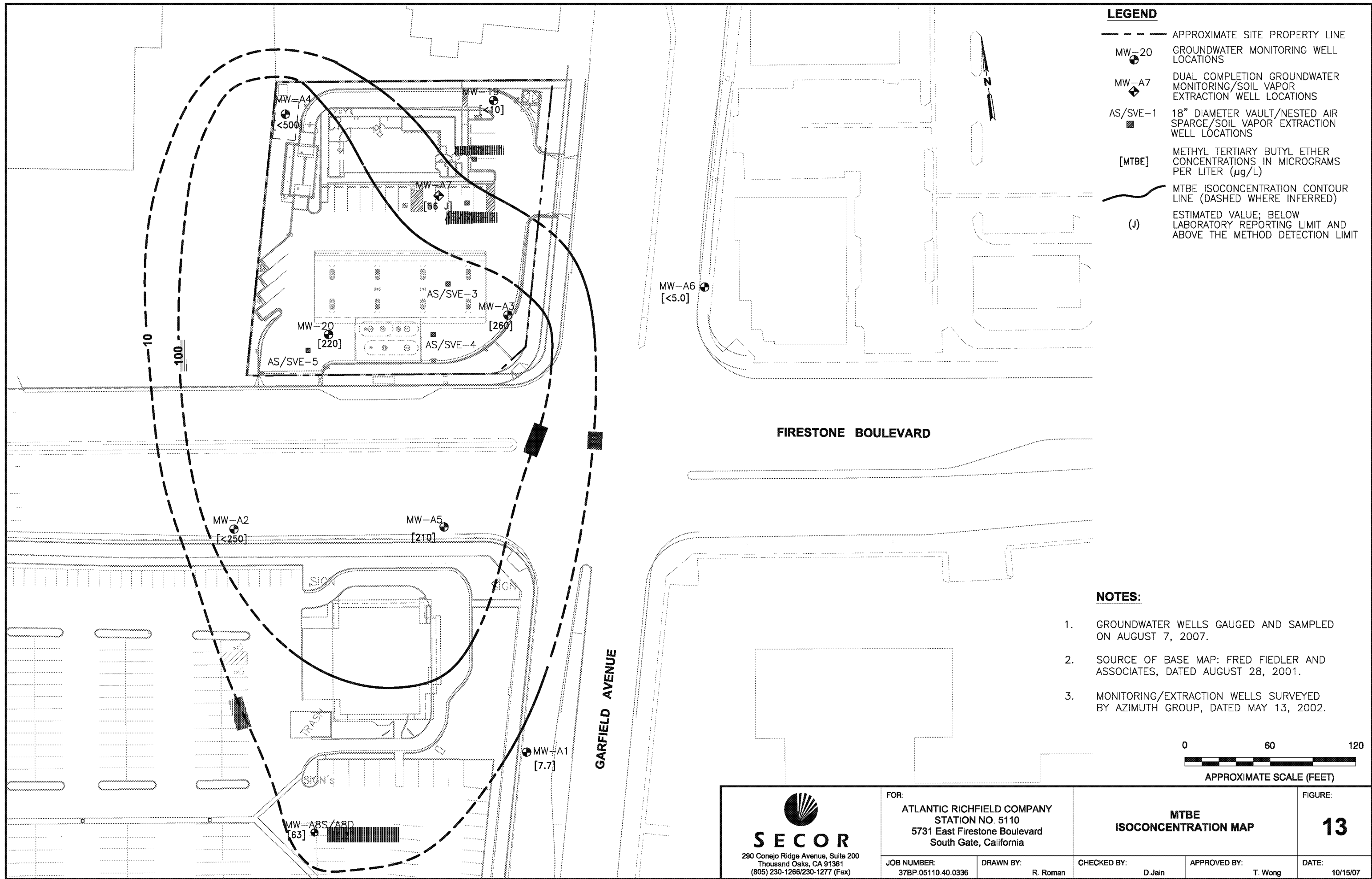


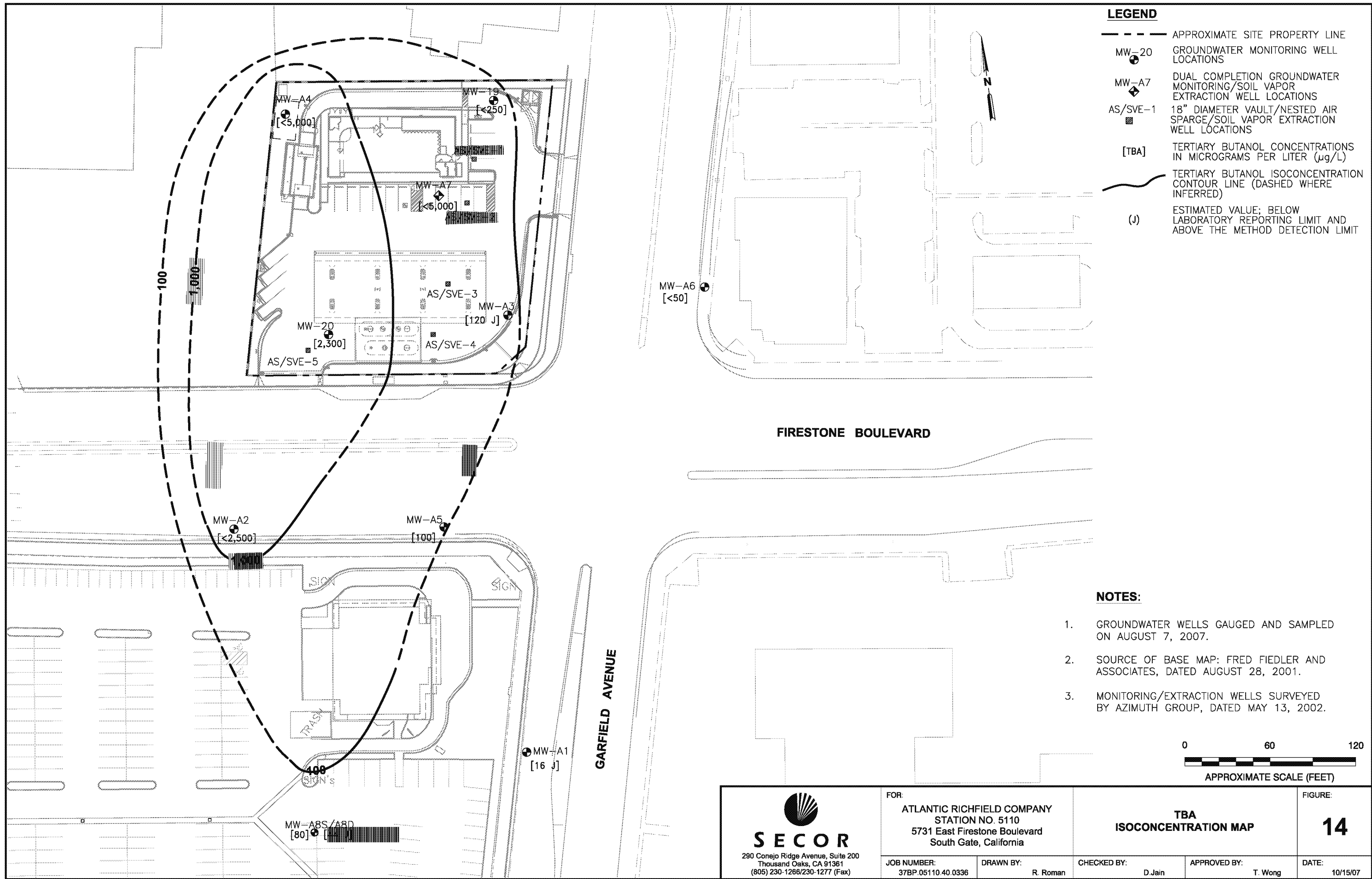


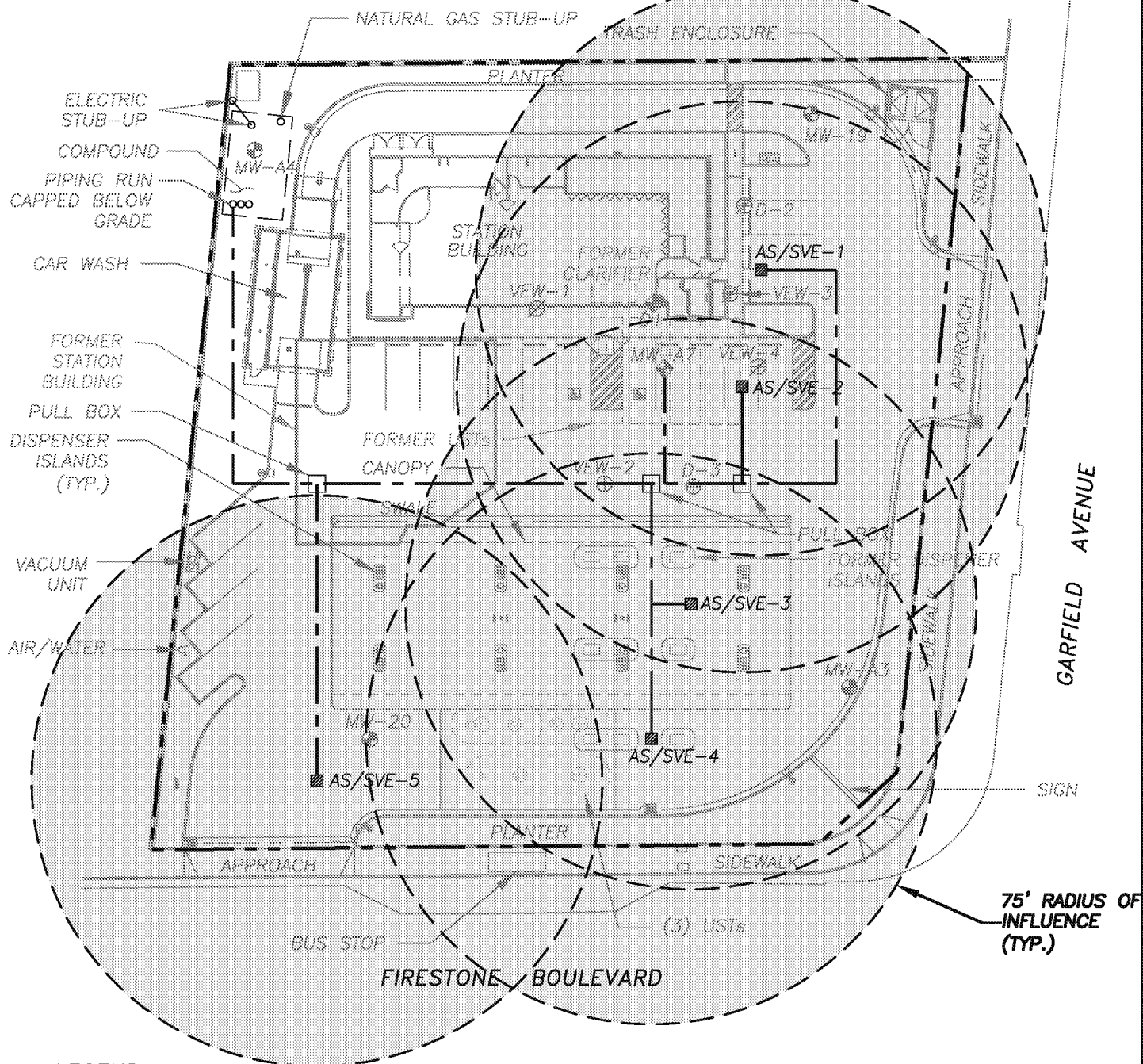












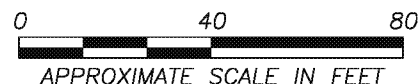
LEGEND

- APPROXIMATE SITE PROPERTY LINE
- TRENCH CENTER LINE (EACH PIPING RUN: 1-6" DIAM., 1-2" DIAM., & 1-1" DIAM. CONDUIT)
- MW-20 GROUNDWATER MONITORING WELL LOCATIONS
- MW-A7 DUAL COMPLETION GROUNDWATER MONITORING/ SOIL VAPOR EXTRACTION WELL LOCATIONS
- VEW-4 SOIL VAPOR EXTRACTION WELL LOCATIONS
- D-1 ABANDONED DUAL COMPLETION GROUNDWATER MONITORING/ SOIL VAPOR EXTRACTION WELL LOCATION
- VEW-1 ABANDONED SOIL VAPOR EXTRACTION WELL LOCATIONS

AS/SVE-1 18" DIAMETER VAULT/NESTED AIR SPARGE/SOIL VAPOR EXTRACTION WELL LOCATIONS

NOTES:

1. SOURCE OF BASE MAP: FRED FIEDLER AND ASSOCIATES, DATED AUGUST 28, 2001.
2. SITE FEATURES AND LOCATIONS ARE APPROXIMATE.
3. MONITORING/EXTRACTION WELLS SURVEYED BY AZIMUTH GROUP, DATED MAY 13, 2002.



APPROXIMATE SCALE IN FEET



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FOR:

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STATION NO. 5110
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JOB NUMBER:

37BP.05110.02.0936

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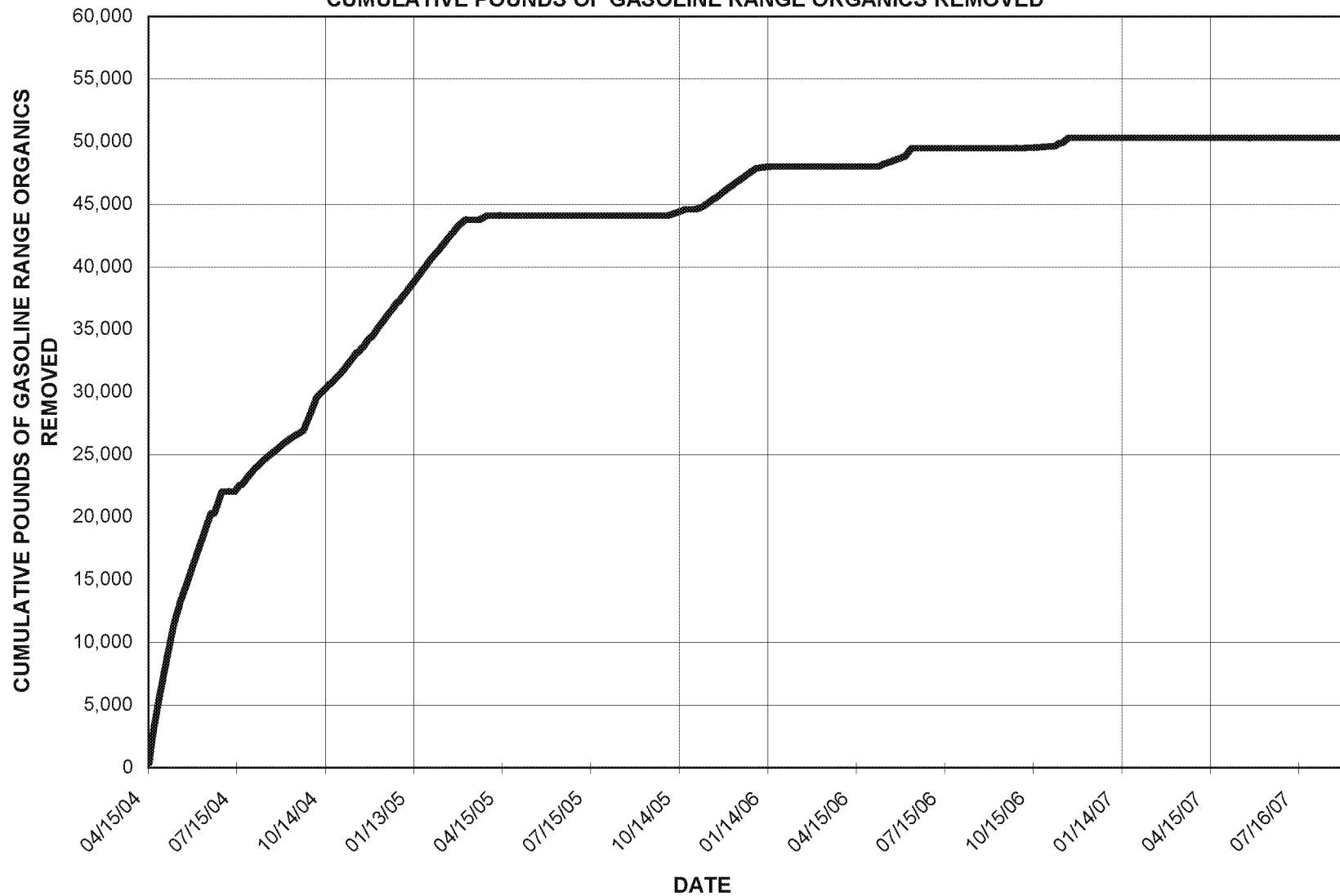
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15

DATE:

01/15/07

FIGURE 16
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
CUMULATIVE POUNDS OF GASOLINE RANGE ORGANICS REMOVED



TABLES

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
Soil Boring Samples														
A-1-25	09/20/89	--	2.7	--	--	--	--	--	--	--	--	--	--	--
A-1-40	09/20/89	--	1.3	--	--	--	--	--	--	--	--	--	--	--
A-2-30	09/20/89	--	2,600	--	--	--	--	--	--	--	--	--	--	--
A-2-40	09/20/89	--	1,800	--	--	--	--	--	--	--	--	--	--	--
A-3-25	09/20/89	--	16,000	--	--	--	--	--	--	--	--	--	--	--
A-3-40	09/20/89	--	<0.4	--	--	--	--	--	--	--	--	--	--	--
Well Installation Samples														
MW-19-30	09/20/89	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
MW-20-30	09/21/89	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
UST Samples														
1A-17	10/04/89	--	0.3	--	--	--	--	--	--	--	--	--	--	--
1B-17	10/04/89	--	16	--	--	--	--	--	--	--	--	--	--	--
2A-17	10/04/89	--	1,400	--	--	--	--	--	--	--	--	--	--	--
2B-17	10/04/89	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
3A-17	10/04/89	--	1,100	--	--	--	--	--	--	--	--	--	--	--
3B-17	10/04/89	--	7,900	--	--	--	--	--	--	--	--	--	--	--
4A-17.5	10/04/89	--	1,400	--	--	--	--	--	--	--	--	--	--	--
4B-17	10/04/89	--	3.0	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
Well Installation Samples														
D-1-5	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-10	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-15	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-20	06/21/90	--	61 ^a	--	<0.10	<0.10	0.2	1.9	--	--	--	--	--	--
D-1-25	06/21/90	--	8,600	--	--	--	--	--	--	--	--	--	--	--
D-1-30	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-35	06/21/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-1-40	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-45	06/21/90	--	8.8	--	--	--	--	--	--	--	--	--	--	--
D-1-47	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-50	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-55	06/21/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-1-60	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-65	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-1-70	06/21/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-10	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-15	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-20	06/22/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-2-25	06/22/90	--	200 ^a	--	0.2	10	11	39	--	--	--	--	--	--
D-2-30	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-35	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-40	06/22/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-2-45	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-47	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-50	06/22/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-2-55	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-60	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-65	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-2-70	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
D-3-10	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-15	06/22/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-3-20	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-25	06/22/90	--	0.3	--	<0.05	<0.05	0.05	0.3	--	--	--	--	--	--
D-3-30	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-35	06/22/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-3-40	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-45	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-47	06/22/90	--	<0.2	--	--	--	--	--	--	--	--	--	--	--
D-3-50	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-55	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-60	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-65	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-3-70	06/22/90	--	--	--	--	--	--	--	--	--	--	--	--	--
D-4-10	12/16/92	--	<10	--	<0.005	<0.005	<0.005	0.02	--	--	--	--	--	--
D-4-20	12/16/92	--	<10	--	0.007	0.007	0.007	0.024	--	--	--	--	--	--
D-4-25	12/16/92	--	<10	--	0.035	0.017	0.017	0.03	--	--	--	--	--	--
D-4-30	12/16/92	--	<10	--	0.017	0.004	0.004	0.015	--	--	--	--	--	--
D-4-35	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-4-40	12/16/92	--	<10	--	0.006	0.007	0.007	0.023	--	--	--	--	--	--
D-4-45	12/16/92	--	<10	--	0.13	0.01	0.01	0.19	--	--	--	--	--	--
D-4-50	12/16/02	--	<10	--	0.33	0.16	0.16	0.4	--	--	--	--	--	--
D-5-10	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-5-20	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-5-25	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-5-30	12/16/92	--	<10	--	0.03	0.006	0.026	0.081	--	--	--	--	--	--
D-5-35	12/16/92	--	<10	--	<0.005	0.006	<0.005	<0.015	--	--	--	--	--	--
D-5-40	12/16/92	--	<10	--	0.079	<0.005	0.042	0.064	--	--	--	--	--	--
D-5-45	12/16/92	--	<10	--	0.17	0.02	0.076	0.13	--	--	--	--	--	--
D-5-50	12/16/02	--	<10	--	0.014	0.008	0.005	<0.015	--	--	--	--	--	--

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
D-6-10	12/16/92	--	<10	--	0.005	0.007	<0.005	<0.015	--	--	--	--	--	--
D-6-20	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-6-25	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-6-30	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-6-35	12/16/92	--	<10	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
D-6-40	12/16/92	--	<10	--	<0.005	0.007	<0.005	0.018	--	--	--	--	--	--
D-6-45	12/16/92	--	<10	--	0.014	<0.005	0.056	0.096	--	--	--	--	--	--
D-6-50	12/16/92	--	<10	--	0.012	<0.005	0.006	<0.015	--	--	--	--	--	--
D-7-10	12/16/92	--	<10	--	0.011	<0.005	<0.005	0.058	--	--	--	--	--	--
D-7-20	12/16/92	--	<10	--	0.066	0.014	0.012	0.057	--	--	--	--	--	--
D-7-25	12/16/92	--	<10	--	0.91	1.4	0.31	1.4	--	--	--	--	--	--
D-7-30	12/16/92	--	<10	--	0.045	0.074	0.02	0.12	--	--	--	--	--	--
D-7-35	12/16/92	--	<10	--	0.009	0.011	<0.005	0.024	--	--	--	--	--	--
D-7-40	12/16/92	--	<10	--	0.006	0.013	<0.005	0.02	--	--	--	--	--	--
D-7-45	12/16/92	--	<10	--	0.19	0.23	0.057	0.28	--	--	--	--	--	--
D-7-50	12/16/92	--	<10	--	0.16	0.26	0.063	0.3	--	--	--	--	--	--
VEW-1-5	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-10	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-15	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-20	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-25	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-30	04/06/95	<1.0	--	--	0.0060	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-35	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-40	04/06/95	<1.0	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-1-50	04/06/95	1.6	--	--	0.2	0.18	0.065	0.22	--	--	--	--	--	--
VEW-1-60	04/06/95	<1.0	--	--	0.020	0.017	0.0067	0.024	--	--	--	--	--	--

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HISTORICAL SOIL ANALYTICAL RESULTS
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
VEW-2-5	04/05/95	--	--	--	0.25	0.45	0.51	4.3	--	--	--	--	--	--
VEW-2-10	04/05/95	--	--	--	1.7	6.8	14	94	--	--	--	--	--	--
VEW-2-15	04/05/95	--	--	--	0.031	0.079	0.019	0.15	--	--	--	--	--	--
VEW-2-20	04/05/95	--	--	--	0.56	0.61	0.15	0.99	--	--	--	--	--	--
VEW-2-25	04/05/95	--	--	--	60	370	150	770	--	--	--	--	--	--
VEW-2-30	04/05/95	--	--	--	0.28	0.14	0.24	1.7	--	--	--	--	--	--
VEW-2-35	04/05/95	--	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-2-40	04/05/95	--	--	--	0.037	1	1.1	7.3	--	--	--	--	--	--
VEW-2-50	04/05/95	--	--	--	5.1	20	15	90	--	--	--	--	--	--
VEW-2-60	04/05/95	--	--	--	7.4	26	35	250	--	--	--	--	--	--
VEW-3-5	04/05/95	--	--	--	0.027	0.055	0.024	0.2	--	--	--	--	--	--
VEW-3-10	04/05/95	--	--	--	<0.005	<0.005	<0.005	0.031	--	--	--	--	--	--
VEW-3-15	04/05/95	--	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-3-20	04/05/95	--	--	--	<0.005	0.005	<0.005	0.053	--	--	--	--	--	--
VEW-3-25	04/05/95	--	--	--	0.68	2.6	0.93	5.4	--	--	--	--	--	--
VEW-3-30	04/05/95	--	--	--	16	160	140	940	--	--	--	--	--	--
VEW-3-35	04/05/95	--	--	--	0.84	5.8	7.2	60	--	--	--	--	--	--
VEW-3-40	04/05/95	--	--	--	2.5	23	25	190	--	--	--	--	--	--
VEW-3-50	04/05/95	--	--	--	0.14	0.28	0.070	0.39	--	--	--	--	--	--
VEW-3-60	04/05/95	--	--	--	0.095	0.94	0.30	1.8	--	--	--	--	--	--
VEW-4-5	04/05/95	--	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-4-10	04/05/95	--	--	--	<0.005	<0.005	<0.005	<0.015	--	--	--	--	--	--
VEW-4-15	04/05/95	--	--	--	0.0050	<0.005	0.0060	0.040	--	--	--	--	--	--
VEW-4-20	04/05/95	--	--	--	0.03	0.076	0.045	0.035	--	--	--	--	--	--
VEW-4-25	04/05/95	--	--	--	<0.005	0.011	0.0086	0.054	--	--	--	--	--	--
VEW-4-30	04/05/95	--	--	--	0.69	1.4	1.7	11	--	--	--	--	--	--
VEW-4-35	04/05/95	--	--	--	<0.005	<0.005	<0.005	0.04	--	--	--	--	--	--
VEW-4-40	04/05/95	--	--	--	<0.005	0.005	<0.005	0.019	--	--	--	--	--	--
VEW-4-50	04/05/95	--	--	--	0.042	0.17	0.056	0.39	--	--	--	--	--	--
VEW-4-60	04/05/95	--	--	--	2.5	8.8	2.3	11	--	--	--	--	--	--
MW-A3-10'	12/01/99	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A3-20'	12/01/99	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A3-30'	12/01/99	<1.0	--	--	0.0079	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A3-40'	12/01/99	1.8	--	--	0.21	0.0061	0.072	0.31	0.037	--	--	--	--	--
MW-A3-45'	12/01/99	--	<5.0	--	0.046	<0.002	0.039	0.208	<0.005	--	--	--	--	--
MW-A3-55'	12/01/99	--	<5.0	--	0.0028	<0.002	<0.002	<0.004	<0.005	--	--	--	--	--

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ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
MW-A4-10'	12/01/99	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A4-20'	12/01/99	<1.0	--	--	<0.0050	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A4-30'	12/01/99	<1.0	--	--	0.0073	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A4-40'	12/01/99	<1.0	--	--	0.019	<0.0050	<0.0050	<0.015	<0.035	--	--	--	--	--
MW-A4-45'	12/01/99	--	<5.0	--	0.150	0.17	0.028	0.082	<0.005	--	--	--	--	--
MW-A4-55'	12/01/99	--	<5.0	--	0.0098	<0.002	0.013	0.0066	<0.005	--	--	--	--	--
MW-A4-65'	12/01/99	--	<5.0	--	0.1	<0.002	0.0073	0.0068	<0.005	--	--	--	--	--
MW-A5-5	10/21/01	<0.50	--	--	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	--
MW-A5-10	10/21/01	<0.41	--	--	<0.0017	<0.0017	<0.0017	<0.0017	<0.0043	<0.043	<0.0043	<0.0043	<0.0043	--
MW-A5-15	10/21/01	<0.50	--	--	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	--
MW-A5-20	10/21/01	<0.42	--	--	<0.0017	<0.0017	<0.0017	<0.0035	<0.0043	<0.043	<0.0043	<0.0043	<0.0043	--
MW-A5-25	10/21/01	<0.50	--	--	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	--
MW-A5-30	10/21/01	<0.50	--	--	<0.0020	<0.0020	<0.0020	0.00061 ^J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	--
MW-A5-35	10/21/01	<0.50	--	--	0.0060	<0.0020	0.0016 ^J	0.0055	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	--
MW-A5-40	10/21/01	<0.50	--	--	<0.0018	<0.0018	<0.0018	<0.0036	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	--
MW-A5-45	10/21/01	<0.44	--	--	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	--
MW-A5-50	10/21/01	<0.41	--	--	0.00063 ^J	<0.0017	<0.0017	<0.0033	<0.0041	<0.041	<0.0041	<0.0041	<0.0041	--
MW-A5-55	10/21/01	<0.45	--	--	<0.0018	<0.0018	<0.0018	<0.0036	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	--
MW-A5-60	10/21/01	<0.44	--	--	0.0017 ^J	0.00043 ^J	0.00039 ^J	0.0024 ^J	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	--
MW-A5-65	10/21/01	<0.45	--	--	0.0013 ^J	0.00029 ^J	0.00026 ^J	0.0020 ^J	<0.0035 ^J	<0.050	<0.0050	<0.0050	<0.0050	--
MW-A6-5	10/30/01	<0.42	--	--	<0.0044	<0.0044	<0.0044	<0.0044	<0.0089	<0.044	<0.0089	<0.0089	<0.0089	--
MW-A6-10	10/30/01	<0.42	--	--	<0.0040	<0.0040	<0.0040	<0.0040	<0.0081	<0.040	<0.0081	<0.0081	<0.0081	--
MW-A6-15	10/30/01	<0.45	--	--	<0.0044	<0.0044	<0.0044	<0.0044	<0.0087	<0.044	<0.0087	<0.0087	<0.0087	--
MW-A6-20	10/30/01	<0.50	--	--	<0.0056	<0.0056	<0.0056	<0.0056	<0.011	<0.056	<0.011	<0.011	<0.011	--
MW-A6-25	10/30/01	<0.42	--	--	<0.0041	<0.0041	<0.0041	<0.0041	<0.0083	<0.041	<0.0083	<0.0083	<0.0083	--
MW-A6-30	10/30/01	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.050	<0.010	<0.010	<0.010	--
MW-A6-35	10/30/01	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.050	<0.010	<0.010	<0.010	--
MW-A6-40	10/30/01	0.33 ^J	--	--	<0.0044	<0.0044	<0.0044	<0.0044	<0.0088	<0.044	<0.0088	<0.0088	<0.0088	--
MW-A6-45	10/30/01	<0.43	--	--	0.0058	<0.0042	<0.0042	<0.0042	<0.0084	<0.042	<0.0084	<0.0084	<0.0084	--
MW-A6-50	10/30/01	<0.42	--	--	0.0055	<0.0042	<0.0042	<0.0042	<0.0084	<0.042	<0.0084	<0.0084	<0.0084	--
MW-A6-55	10/30/01	<0.45	--	--	0.0069	<0.0045	<0.0045	<0.0045	<0.0090	<0.045	<0.0090	<0.0090	<0.0090	--
MW-A6-60	10/30/01	<0.50	--	--	<0.0045	<0.0045	<0.0045	<0.0045	<0.0090	<0.045	<0.0090	<0.0090	<0.0090	--
MW-A6-65	10/30/01	<0.44	--	--	0.0082	<0.0044	<0.0044	<0.0044	<0.0088	<0.044	<0.0088	<0.0088	<0.0088	--

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5731 EAST FIRESTONE BOULEVARD
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EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
MW-A7-15	04/16/02	19	--	--	<0.26	0.23 ^J	0.19 ^J	1.3	1.2	11	<0.52	<0.52	<0.52	--
MW-A7-20	04/16/02	3.0	--	--	0.88	2.7	0.57	3.2	7.7	16	<0.50	<0.50	<0.50	--
MW-A7-25	04/16/02	29	--	--	1.5	30	33	170	<2.1	<11	<2.1	<2.1	<2.1	--
MW-A7-30	04/16/02	1,400	--	--	0.46 ^J	14	22	120	<1.2	<6.1	<1.2	<1.2	<1.2	--
MW-A7-35	04/16/02	620	--	--	0.71	16	21	120	0.79	<2.6	<0.52	<0.52	<0.52	--
MW-A7-40	04/16/02	18	--	--	0.33	8.1	13	69	0.48 ^J	<2.6	<0.51	<0.51	<0.51	--
MW-A7-45	04/16/02	16	--	--	1.2	3.9	0.77	4.1	<0.47	<2.4	<0.47	<0.47	<0.47	--
MW-A7-50	04/16/02	0.76	--	--	0.30	0.81	0.16	0.72	0.12	0.050	<0.0090	<0.0090	<0.0090	--
MW-A7-55	04/16/02	7.9	--	--	0.24	0.21	0.29	1.2	0.17	0.12	<0.010	<0.010	<0.010	--
MW-A7-60	04/16/02	<0.41	--	--	<0.0050	0.0025 ^J	<0.0050	0.010	<0.010	<0.050	<0.010	<0.010	<0.010	--
MW-A7-65	04/16/02	<0.50	--	--	0.020	0.022	0.011	0.061	0.01	<0.050	<0.010	<0.010	<0.010	--
UST Samples														
TK-1A-17	02/07/02	1.80	--	--	0.098	0.20	0.07	0.30	<0.010	<0.010	0.02	18	1.3	--
TK-1B-17	02/07/02	4,600	--	--	6.9	69	69	340	<2.2	<2.2	<2.2	6.8 ^J	8.1	--
TK-2A-17	02/07/02	17	--	--	0.29	1.2	0.30	1.8	<0.49	<0.49	<0.49	1.5 ^J	3.0	--
TK-2B-17	02/07/02	1,900	--	--	1.2	6.5	24	110	<0.45	<0.45	<0.45	8.4	4.6	--
TK-3A-17	02/07/02	3,300	--	--	11	120	71	390	<2.2	<2.2	<2.2	5.9 ^J	4.7	--
TK-3B-17	02/07/02	1.20	--	--	<0.27	0.33	0.14 ^J	0.81	<0.54	<0.54	<0.54	23.00	1.30	--
TK-4A-17	02/07/02	8,800	--	--	16	270	130	820	<27	<27	<27	<140	<27	--
TK-4B-17	02/07/02	2.10	--	--	<0.26	0.11 ^J	<0.26	0.31	<0.52	<0.52	<0.52	24	1.3	--
Dispenser Samples														
D-1-2	02/01/02	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
D-2-2	02/01/02	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
D-3-2	02/01/02	<0.65	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
D-4-2	02/01/02	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
D-5-2	02/01/02	<1.6	--	--	<0.0067	<0.0067	<0.0067	<0.0067	<0.013	<0.013	<0.013	0.18	0.0099 ^J	--
D-6-2	02/01/02	3,500	--	--	<0.58	3.2	4.1	360	<1.2	<1.2	<1.2	4.7 ^J	2.7	--
D-7-2	02/01/02	<0.79	--	--	<0.0072	<0.0072	<0.0072	0.025	<0.014	<0.014	<0.014	<0.072	0.22	--
D-8-2	02/01/02	<1.1	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	0.18	--
D-9-2	02/01/02	<0.50	--	--	<0.0068	<0.0068	<0.0068	<0.0068	<0.014	<0.014	<0.014	<0.068	<0.014	--
Product Line Samples														
PL-1-4	02/01/02	<0.45	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
PL-2-4	02/01/02	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	0.10	0.04	--
PL-3-3	02/01/02	<0.57	--	--	<0.0064	<0.0064	<0.0064	<0.0064	<0.013	<0.013	<0.013	<0.064	<0.013	--
PL-4-3	02/01/02	<0.57	--	--	<0.0045	<0.0045	<0.0045	<0.0045	<0.0091	<0.0091	<0.0091	<0.045	<0.0091	--
Confirmation Sample														
CS-1-5	02/04/02	3,200	--	--	<0.26	1.80	2.90	23.00	<0.53	<0.53	<0.53	2.3 ^J	6.10	--

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ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
Clarifier Sample														
CL-1A-7	02/05/02	8.90	--	--	<0.0068	<0.0068	<0.0068	<0.0068	<0.014	<0.014	<0.014	0.068	<0.014	--
CL-1B-7	02/05/02	8.20	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
Shoring Boring Samples														
SB-1-10	02/07/02	<0.50	--	--	<0.0044	0.0021 ^j	<0.0044	<0.0044	<0.0088	<0.0088	<0.0088	<0.044	<0.0088	--
SB-2-5	02/07/02	<0.50	--	--	<0.0045	0.020	0.0046	0.028	<0.0091	<0.0091	<0.0091	<0.045	<0.0091	--
SB-2-10	02/07/02	<0.42	--	--	<0.0050	0.10	0.019	0.120	<0.010	<0.010	<0.010	<0.050	<0.010	--
SB-2-15	02/07/02	<0.50	--	--	<0.0050	<0.0050	<0.0050	<0.0050	<0.010	<0.010	<0.010	<0.050	<0.010	--
SB-3-5	02/07/02	<0.45	--	--	<0.0050	0.023	0.017	0.092	<0.010	<0.010	<0.010	<0.050	<0.010	--
SB-3-10	02/07/02	<0.40	--	--	<0.0041	0.0019 ^j	<0.0041	0.0044	<0.0082	<0.0082	<0.0082	<0.041	<0.0082	--
SB-3-15	02/07/02	<0.45	--	--	<0.0041	<0.0041	<0.0041	<0.0041	<0.0082	<0.0082	<0.0082	<0.041	<0.0082	--
SB-4-5	02/07/02	<0.50	--	--	<0.0050	0.0023 ^j	<0.0050	0.0051	<0.010	<0.010	<0.010	<0.050	<0.010	--
SB-4-10	02/07/02	<0.40	--	--	<0.0045	<0.0045	<0.0045	<0.0045	<0.0091	<0.0091	<0.0091	<0.045	<0.0091	--
SB-4-15	02/07/02	<0.43	--	--	<0.0042	<0.0042	<0.0042	<0.0042	<0.0085	<0.0085	<0.0085	<0.042	<0.0085	--
SB-5-5	02/07/02	1,200	--	--	<0.85	12	31	200	<1.7	<1.7	<1.7	<8.5	<1.7	--
SB-5-10	02/07/02	65	--	--	<0.24	0.16 ^j	0.39	2.9	<0.48	<0.48	<0.48	<2.4	<0.48	--
SB-5-15	02/07/02	850	--	--	0.20 ^j	7.6	14	89	<0.91	<0.91	<0.91	<4.5	0.55 ^j	--
Air Sparge/Soil Vapor Extraction Well Samples														
AS/SVE-1-5	09/30/03	<1.0	--	--	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	<0.045	<0.0045	<0.0045	<0.0045	<0.27
AS/SVE-1-10	09/30/03	<1.0	--	--	0.00053 ^j	<0.0018	0.01	<0.0036	0.0072	0.13	<0.0045	<0.0045	<0.0045	<0.27
AS/SVE-1-15	09/30/03	4,100	--	--	0.99 ^j	22	49	350	<2.8	<56	<2.8	<2.8	<2.8	<170
AS/SVE-1-20	09/30/03	3,200	--	--	1.2	36	76	510	<2.5	<50	<2.5	<2.5	<2.5	<150
AS/SVE-1-25	09/30/03	2.1	--	--	<0.10	0.18	0.081 ^j	0.59	0.37	0.76 ^j	<0.25	<0.25	<0.25	<15
AS/SVE-1-30	09/30/03	1.8	--	--	1.3	14	8.4	46	1.5	<17	<0.83	<0.83	<0.83	<50
AS/SVE-1-35	09/30/03	520	--	--	0.056 ^j	1.40	3.9	23	0.089 ^j	<5.9	<0.30	<0.30	<0.30	<18
AS/SVE-1-40	09/30/03	0.19 ^j	--	--	0.0021 ^j	0.010	0.013	0.083	0.051	0.23	<0.0058	<0.0058	<0.0058	<0.35
AS/SVE-1-45	09/30/03	1.0	--	--	0.11	0.051	0.076	0.32	0.0060	<0.044	<0.0044	<0.0044	<0.0044	<0.27
AS/SVE-1-50	09/30/03	0.59 ^j	--	--	0.15	0.011	0.095	0.28	0.097	0.11	0.0012 ^j	<0.0044	<0.0044	<0.26
AS/SVE-1-55	09/30/03	0.26 ^j	--	--	0.0014 ^j	0.0037	0.014	0.028	0.026	0.061	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-1-60	09/30/03	<1.0	--	--	<0.0020	0.0020	0.0017 ^j	0.011	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-1-65	09/30/03	2.9	--	--	0.23	0.53	0.21	1.2	0.14 ^j	<5.0	<0.25	<0.25	<0.25	<15
AS/SVE-1-70	09/30/03	<1.0	--	--	0.041	<0.0017	<0.0017	<0.00082 ^j	0.0059	<0.044	<0.0044	<0.0044	<0.0044	<0.26

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5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
AS/SVE-2-5	10/01/03	<1.0	--	--	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-2-10	10/01/03	<0.91	--	--	<0.0017	<0.0017	<0.0017	<0.0035	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.26
AS/SVE-2-15	10/01/03	0.14 ^J	--	--	0.00063 ^J	<0.0020	0.0011 ^J	0.0080	0.032	1.1	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-2-20	10/01/03	3.40	--	--	<0.12	<0.12	<0.12	<0.23	<0.29	12	<0.29	<0.29	<0.29	<17
AS/SVE-2-25	10/01/03	27 ^J	--	--	0.44	1.8	0.37	2.5	3.2	10	<0.22	<0.22	<0.22	<13
AS/SVE-2-30	10/01/03	43 ^J	--	--	2.1	9.0	2.0	11	11	6.4	<0.25	<0.25	0.13 ^J	<15
AS/SVE-2-35	10/01/03	2,500	--	--	1.5	40	65	300	0.54 ^J	<28	<1.4	<1.4	<1.4	<85
AS/SVE-2-40	10/01/03	3,100	--	--	0.42 ^J	21	51	290	<3.0	<60	<3.0	<3.0	<3.0	<180
AS/SVE-2-45	10/01/03	6,700	--	--	12	150	95	430	<2.5	<50	<2.5	<2.5	<2.5	<150
AS/SVE-2-50	10/01/03	25 ^J	--	--	2.2	6.6	1.4	8.3	0.57	<4.5	<0.23	<0.23	<0.23	<14
AS/SVE-2-55	10/01/03	11 ^J	--	--	0.32	0.046	0.17	0.58	0.21	0.73	0.0026 ^J	<0.0050	0.00088 ^J	<0.30
AS/SVE-2-60	10/01/03	<1.0	--	--	0.0029	0.0079	0.0040	0.022	0.0055	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-2-65	10/01/03	<1.0	--	--	0.0022	<0.0020	<0.0020	<0.0040	0.015	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-2-70	10/01/03	0.33 ^J	--	--	0.14	0.13	0.10	0.48	0.027	0.056	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-3-5	10/04/03	500	--	--	0.22	<0.12	4.1	3.4	<0.30	<6.0	<0.30	<0.30	<0.30	<18
AS/SVE-3-10	10/04/03	0.48 ^J	--	--	0.053	<0.0016	0.047	0.053	<0.0040	0.013 ^J	<0.0040	<0.0040	<0.0040	<0.24
AS/SVE-3-15	10/04/03	0.31 ^J	--	--	0.0032	0.0059	0.0023	0.11	0.025	0.013 ^J	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-3-20	10/04/03	0.22 ^J	--	--	0.00060 ^J	0.0015 ^J	<0.0024	0.0030 ^J	0.0042 ^J	<0.060	<0.0060	<0.0060	<0.0060	<0.36
AS/SVE-3-25	10/04/03	80	--	--	1.6	3.8	0.59	3.3	0.45	<5.0	<0.25	<0.25	<0.25	<15
AS/SVE-3-30	10/04/03	<1.2	--	--	0.0025	0.011	0.0031	0.022	0.022	0.011 ^J	<0.0056	<0.0056	<0.0056	<0.34
AS/SVE-3-35	10/04/03	0.15 ^J	--	--	0.00087 ^J	0.0036	0.0013 ^J	0.0084	0.017	0.011 ^J	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-3-40	10/04/03	0.69 ^J	--	--	0.053	0.057	0.023	0.11	0.17	0.058	<0.0050	<0.0050	0.0010 ^J	<0.30
AS/SVE-3-45	10/04/03	0.56 ^J	--	--	0.036	0.014	0.024	0.10	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.23
AS/SVE-3-50	10/04/03	<43	--	--	0.48	0.75	0.18	0.57	0.061 ^J	<4.3	<0.21	<0.21	<0.21	<13
AS/SVE-3-55	10/04/03	1.4	--	--	0.14	0.16	0.093	0.45	0.16	0.081	0.00073 ^J	<0.0042	0.00073 ^J	<0.25
AS/SVE-3-60	10/04/03	0.35 ^J	--	--	0.024	0.020	0.015	0.059	<0.0050	0.022 ^J	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-3-65	10/04/03	<0.87	--	--	0.0029	<0.0020	<0.0020	0.0014 ^J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-3-70	10/04/03	0.12 ^J	--	--	0.0051	0.0068	0.0027	0.011	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30

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EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
AS/SVE-4-5	09/30/03	0.79 ^J	--	--	<0.10	<0.10	0.075 ^J	0.86	<0.25	<5.0	<0.25	<0.25	<0.25	<15
AS/SVE-4-10	09/30/03	2,700	--	--	0.91 ^J	32	54	320	<2.5	<50	<2.5	<2.5	<2.5	<150
AS/SVE-4-15	09/30/03	3,100	--	--	1.4	45	41	220	<2.1	<43	<2.1	<2.1	<2.1	<130
AS/SVE-4-20	09/30/03	0.16 ^J	--	--	0.0012 ^J	0.023	0.022	0.14	0.0022	0.072	<0.0062	<0.0062	<0.0062	<0.37
AS/SVE-4-25	09/30/03	1,100	--	--	<0.46	8.9	15	84	<1.2	<23	<1.2	<1.2	<1.2	<69
AS/SVE-4-30	09/30/03	1.8	--	--	2.6	9.4	2.3	12	0.80	<8.9	<0.44	<0.44	<0.44	<27
AS/SVE-4-35	09/30/03	<1.1	--	--	0.011	0.026	0.0099	0.059	0.068	0.23	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-4-40	09/30/03	<1.1	--	--	<0.0024	<0.0024	<0.0024	0.0022 ^J	0.012	0.63	<0.0059	<0.0059	<0.0059	<0.36
AS/SVE-4-45	09/30/03	1.3	--	--	0.12	0.081	0.028	0.16	0.29	0.22	0.0011 ^J	<0.0050	0.0010 ^J	<0.30
AS/SVE-4-50	09/30/03	0.18 ^J	--	--	0.031	0.0041	0.0041	0.023	0.0011 ^J	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-4-55	09/30/03	0.56 ^J	--	--	0.085	0.0062	0.029	0.16	0.011	<0.050	0.00053 ^J	<0.0050	<0.0050	<0.30
AS/SVE-4-60	09/30/03	1.3	--	--	0.48	<0.090	0.16	0.45	0.058 ^J	<4.5	<0.23	<0.23	<0.23	<14
AS/SVE-4-65	09/30/03	<1.0	--	--	0.018	0.0035	0.0086	0.026	0.0019 ^J	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-4-70	09/30/03	0.29 ^J	--	--	0.0011 ^J	0.0014 ^J	0.0020	0.012	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-5	09/29/03	<1.2	--	--	<0.0023	<0.0023	<0.0023	<0.0046	<0.0057	<0.057	<0.0057	<0.0057	<0.0057	<0.34
AS/SVE-5-10	09/29/03	<0.90	--	--	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-15	09/29/03	<0.85	--	--	<0.0017	<0.0017	<0.0017	<0.0034	<0.0043	<0.043	<0.0043	<0.0043	<0.0043	<0.26
AS/SVE-5-20	09/29/03	<1.0	--	--	<0.0020	<0.0020	<0.0020	0.0014 ^J	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-25	09/29/03	<1.1	--	--	<0.0024	<0.0024	<0.0024	<0.0047	<0.0059	<0.059	<0.0059	<0.0059	<0.0059	<0.35
AS/SVE-5-30	09/29/03	<1.0	--	--	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-35	09/29/03	<1.0	--	--	0.00076 ^J	<0.0022	<0.0022	0.00089 ^J	0.0035 ^J	<0.056	<0.0056	<0.0056	<0.0056	<0.33
AS/SVE-5-40	09/29/03	<1.0	--	--	0.0011 ^J	<0.0020	0.0013 ^J	0.0026 ^J	0.0061	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-45	09/29/03	<1.0	--	--	0.0024	<0.0020	0.0038	0.0072	0.017	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-50	09/29/03	0.14 ^J	--	--	0.028	<0.0020	0.0063	0.013	0.0098	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-55	09/29/03	<1.0	--	--	0.00089 ^J	<0.0020	<0.0020	<0.0040	0.045	0.026 ^J	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-60	09/29/03	<1.0	--	--	0.0074	<0.0020	0.0038	<0.0040	0.079	0.060	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-65	09/29/03	0.28 ^J	--	--	0.19	0.011	0.027	0.039	0.0062	<0.050	<0.0050	<0.0050	<0.0050	<0.30
AS/SVE-5-70	09/29/03	<0.89	--	--	<0.0017	<0.0017	<0.0017	<0.0035	0.0024 ^J	<0.044	<0.0044	<0.0044	<0.0044	<0.26

TABLE 1
HISTORICAL SOIL ANALYTICAL RESULTS
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CA

EPA Method:		8015B			8020/8260B									
Sample I.D.	Sample Date	TPHg mg/kg	TFH mg/kg	GRO mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg	MTBE mg/kg	TBA mg/kg	DIPE mg/kg	ETBE mg/kg	TAME mg/kg	ETHANOL mg/kg
MW-A8-5	10/12/05	--	--	<0.32	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
MW-A8-10	10/12/05	--	--	<0.32	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	<0.040	<0.0040	<0.0040	<0.0040	<0.24
MW-A8-15	10/12/05	--	--	4.7 ^J	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
MW-A8-20	10/12/05	--	--	<0.40	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
MW-A8-25	10/12/05	--	--	<0.34	<0.0017	<0.0017	<0.0017	<0.0034	<0.0042	<0.042	<0.0042	<0.0042	<0.0042	<0.25
MW-A8-30	10/12/05	--	--	<0.36	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.26
MW-A8-35	10/12/05	--	--	<0.31	<0.0016	<0.0016	<0.0016	<0.0033	<0.0041	<0.041	<0.0041	<0.0041	<0.0041	<0.25
MW-A8-40	10/12/05	--	--	<0.36	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.30
MW-A8-45	10/12/05	--	--	<0.31	<0.0017	<0.0017	<0.0017	<0.0033	<0.0042	<0.042	<0.0042	<0.0042	<0.0042	<0.25
MW-A8-50	10/12/05	--	--	<0.32	<0.0017	<0.0017	<0.0017	<0.0034	<0.0042	<0.042	<0.0042	<0.0042	<0.0042	<0.25
MW-A8-55	10/12/05	--	--	<0.35	<0.0018	<0.0018	<0.0018	<0.0035	<0.0044	<0.044	<0.0044	<0.0044	<0.0044	<0.27
MW-A8-60	10/12/05	--	--	<0.34	<0.0020	<0.0020	<0.0020	<0.0040	0.0047 ^J	0.013 ^J	<0.0050	<0.0050	<0.0050	<0.30
MW-A8-65	10/12/05	--	--	<0.33	0.00080 ^J	<0.0020	<0.0020	<0.0040	0.0067	0.021 ^J	<0.0050	<0.0050	<0.0050	<0.30
MW-A8-70	10/12/05	--	--	<0.34	<0.0017	<0.0017	<0.0017	<0.0034	0.0012 ^J	<0.042	<0.0042	<0.0042	<0.0042	<0.25
MW-A8-75	10/12/05	--	--	<0.31	<0.0016	<0.0016	<0.0016	<0.0031	<0.0039	<0.039	<0.0039	<0.0039	<0.0039	<0.23
MW-A8-80	10/12/05	--	--	<0.40	<0.0016	<0.0016	<0.0016	<0.0032	<0.0040	0.018 ^J	<0.0040	<0.0040	<0.0040	<0.24
MW-A8-85	10/12/05	--	--	<0.35	<0.0018	<0.0018	<0.0018	<0.0036	<0.0045	0.014 ^J	<0.0045	<0.0045	<0.0045	<0.27
MW-A8-90	10/12/05	--	--	<0.32	<0.0020	<0.0020	<0.0020	<0.0040	<0.0050	0.095	<0.0050	<0.0050	<0.0050	<0.30

Notes:

mg/kg- Milligrams per kilogram

TPHg - Total petroleum hydrocarbons as gasoline

TFH - Total fuel hydrocarbons

GRO - Gasoline Range Organics (C4-C14)

B - Benzene

T - Toluene

E - Ethylbenzene

X - Total xylenes

Prior to 6/22/90 EPA Method 8020 used for BTEX Analysis

-- - Not Analyzed

TBA - Tertiary butanol

DIPE - Di-isopropyl ether

ETBE - Ethyl-tertiary-butyl ether

TAME - Tertiary-aryl-methyl ether

MTBE - Methyl-tertiary-butyl ether

J- estimated value: below the reporting limit and above the method detection limit

<0.0050 - Below reporting limit and method detection limit

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
D-1	06/27/90	DUP	107.62	57.06	0.00	50.56	1,600	800	300	77	370	-	-	-	-	-	-	
	06/29/93			56.15	0.00	51.47	1,100	330	45	62	87	-	-	-	-	-	-	
	09/20/93			55.17	0.00	52.45	12,600	1,737	289	432	483	-	-	-	-	-	-	
	11/15/93			54.59	0.00	53.03	8,400	2,400	430	690	1,200	-	-	-	-	-	-	
	04/18/94			51.86	0.00	55.76	7,800	1,400	330	610	1,500	-	-	-	-	-	-	
	11/04/94			50.83	0.00	56.79	15,000	2,400	230	1,400	2,900	-	-	-	-	-	-	
	03/20/95			49.63	0.00	57.99	12,000	1,900	520	240	1,800	-	-	-	-	-	-	
	04/13/95			49.55	0.00	58.07	15,000	1,600	420	1,200	2,000	-	-	-	-	-	-	
	09/08/95			48.14	0.00	59.48	11,000	1,500	220	900	1,300	-	-	-	-	-	-	
	11/15/95			47.87	0.00	59.75	10,000	1,600	310	1,200	1,600	-	-	-	-	-	-	
	01/22/96			50.10	0.00	57.52	3,400	680	51	350	290	-	-	-	-	-	-	
	04/30/96			46.89	0.00	60.73	7,800	1,200	110	930	1,100	-	-	-	-	-	-	
	07/31/96			46.76	0.00	60.86	14,000	1,900	580	1,200	2,600	3,300	-	-	-	-	-	
	11/22/96			46.64	0.00	60.98	12,000	1,500	2,100	620	3,100	790	-	-	-	-	-	
	03/14/97			45.71	0.00	61.91	6,200	780	270	550	1,100	650	-	-	-	-	-	
	05/05/97			45.51	0.00	62.11	2,100	250	53	170	240	200	-	-	-	-	-	
	07/22/97			45.52	0.00	62.10	870	130	2.2	98	95	120	-	-	-	-	-	
	10/10/97			45.68	0.00	61.94	70	8.0	0.78	5.4	9.5	<10	-	-	-	-	-	
	01/30/98			45.35	0.00	62.27	10,000	1,300	350	910	2,600	770	-	-	-	-	-	
	06/05/98			44.34	0.00	63.28	11,000	1,100	150	580	1,800	630	-	-	-	-	-	
	09/14/98			43.70	0.00	63.92	11,000	1,100	150	690	1,700	770	-	-	-	-	-	
	12/18/98			43.40	0.00	64.22	16,000	1,800	520	1,100	3,500	1,300	-	-	-	-	-	
	02/15/99			43.45	0.00	64.17	23,000	2,700	810	1,600	5,300	1,900	-	-	-	-	-	
	05/12/99			43.35	0.00	64.27	18,000	2,200	440	1,300	3,300	1,600	-	-	-	-	-	
	09/29/99			43.24	0.00	64.38	13,000	2,000	1,200	970	3,430	1,900	-	-	-	-	-	
	09/29/99			-	-	-	13,000	2,100	1,300	1,000	3,450	1,900	-	-	-	-	-	
	12/07/99			45.85	0.00	61.77	5,500	650	210	200	580	11,000	-	-	-	-	-	
	03/21/00		107.65	45.25	0.00	62.40	11,000	1,200	230	690	2,130	2,000	-	-	-	-	-	
	06/14/00			45.69	0.00	61.96	21,000	2,500	490	1,300	4,000	2,300	<1,000	<100	<100	<100	-	
	08/23/00			45.64	0.00	62.01	9,300	2,100	240	950	2,400	1,700	630 J	13 J	<100	12 J	-	
	12/08/00			46.70	0.00	60.95	3,800	490	44	240	500	540	200	3.1 J	<10	2.5 J	-	
	02/15/01			46.89	0.00	60.76	14,000	2,400	380	1,000	4,100	4,000	1,100	<50	<50	<50	-	
	06/14/01			46.98	0.00	60.67	340	25	<1.5	2.6	13	160	78	<5.0	<5.0	<5.0	-	
	09/14/01			47.64	0.00	60.01	250	9.7	4.0	2.2	4.3	180	76	1.6 J	<5.0	<5.0	-	
	12/07/01			48.04	0.00	59.61	7,700	1,800	330	630	1,700	1,100	600	5.4 J	<12	3.9 J	-	
	03/28/02	ABN		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-19	06/26/90		107.07	57.21	0.00	49.86	700	139	<10	<10	<10	-	-	-	-	-	-	
	06/29/93			55.37	0.00	51.70	870	100	0.90	65	18	-	-	-	-	-	-	
	09/20/93			54.48	0.00	52.59	2,100	91	4.1	51	27	-	-	-	-	-	-	
	11/15/93			53.99	0.00	53.08	1,100	65	0.80	20	23	-	-	-	-	-	-	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-19	04/18/94	DUP	107.07	51.38	0.00	55.69	1,200	38	4.0	5.0	3.0	-	-	-	-	-	-	
	11/04/94			50.37	0.00	56.70	490	7.0	<0.3	<0.3	<0.5	-	-	-	-	-	-	
	03/20/95			49.05	0.00	58.02	240	1.3	<0.30	<0.30	<0.60	-	-	-	-	-	-	
	04/13/95			48.90	0.00	58.17	230	2.1	<0.30	<0.30	<0.60	-	-	-	-	-	-	
	09/08/95			48.63	0.00	58.44	250	8.1	<0.30	<0.30	<0.60	-	-	-	-	-	-	
	11/15/95			47.33	0.00	59.74	350	7.2	0.34	0.51	<0.60	-	-	-	-	-	-	
	01/22/96			49.53	0.00	57.54	250	5.4	<0.30	29	10	-	-	-	-	-	-	
	04/30/96			46.35	0.00	60.72	250	5.1	<0.30	<0.30	<0.60	-	-	-	-	-	-	
	07/31/96			46.24	0.00	60.83	530	7.4	2.2	0.93	68	<10	-	-	-	-	-	
	11/22/96			46.11	0.00	60.96	350	1.2	0.39	<0.30	<0.60	<10	-	-	-	-	-	
	03/14/97			45.12	0.00	61.95	260	32	1.4	<0.30	2.0	44	-	-	-	-	-	
	05/05/97			44.93	0.00	62.14	190	3.1	<0.30	<0.30	0.86	<10	-	-	-	-	-	
	07/22/97			44.83	0.00	62.24	270	16	0.71	<0.30	1.9	<10	-	-	-	-	-	
	10/10/97			45.05	0.00	62.02	520	29	0.85	0.41	3.7	34	-	-	-	-	-	
	01/30/98			44.75	0.00	62.32	630	31	3.3	0.59	8.2	<10	-	-	-	-	-	
	06/05/98			43.75	0.00	63.32	1,700	230	7.5	73	66	40	-	-	-	-	-	
	09/14/98			43.35	0.00	63.72	3,600	780	120	55	81	<100	-	-	-	-	-	
	12/18/98			42.60	0.00	64.47	15,000	3,700	3,500	500	1,800	<1,000	-	-	-	-	-	
	02/15/99			42.20	0.00	64.87	14,000	3,300	2,800	480	1,600	<1,000	-	-	-	-	-	
	05/12/99			41.65	0.00	65.42	18,000	3,300	2,700	600	2,100	<2,000	-	-	-	-	-	
	09/21/99			41.58	0.00	65.49	14,000	4,400	4,400	800	2,900	<1,000	-	-	-	-	-	
	12/07/99			39.61	0.00	67.46	23,000	3,900	3,800	780	2,800	<250	-	-	-	-	-	
	12/07/99			-	-	-	20,000	3,800	3,700	770	2,800	<250	-	-	-	-	-	
	03/21/00		107.12	43.38	0.00	63.74	52,000	7,900	6,800	1,300	5,200	<100	-	-	-	-	-	
	06/14/00			43.60	0.00	63.52	39,000	8,700	7,500	1,900	7,400	<250	<2,500	<250	<250	<250	-	
	08/23/00			44.01	0.00	63.11	29,000	9,300	970	2,000	4,900	21 J	<4,000	<400	<400	<400	-	
	12/08/00			44.45	0.00	62.67	27,000	6,800	230	1,300	3,200	7.7 J	85 J	<20	<20	<20	-	
	02/15/01			45.68	0.00	61.44	12,000	3,800	570	610	1,300	<20	<200	<20	<20	<20	-	
	06/14/01			45.58	0.00	61.54	8,100	2,400	250	390	870	25	<200	<20	<20	<20	-	
	09/14/01			46.59	0.00	60.53	10,000	3,000	34	800	400	15 J	<200	<20	<20	<20	-	
	12/07/01			46.88	0.00	60.24	11,000	3,400	<500	980	210 J	14 J	<500	<50	<50	<50	-	
	03/28/02			47.48	0.00	59.64	7,600	2,500	<250	840	140 J	9.0 J	28 J	<10	<10	<10	-	
	06/06/02		109.25	47.74	0.00	61.51	7,700	1,800	2.1 J	720	20	8.4 J	<100	<10	<10	<10	-	
	09/05/02			48.65	0.00	60.60	2,500	770	1.0 J	240	1.9 J	9.7 J	36 J	<10	<10	<10	-	
	12/05/02			49.30	0.00	59.95	480	270	<2.0	23	<4.0	8.0	68	<5.0	<5.0	<5.0	-	
	02/18/03			49.61	0.00	59.64	310	39	<2.0	3.1	<4.0	6.8	87	<5.0	<5.0	<5.0	<150	
	05/19/03			49.63	0.00	59.62	120	4.2	<2.0	3.9	0.59 J	7.7	86	<5.0	<5.0	<5.0	<150	
	08/19/03			49.85	0.00	59.40	140	8.2	<2.0	0.87 J	4.3	4.2 J	70	<5.0	<5.0	<5.0	<150	
	11/18/03			50.41	0.00	58.84	80	4.4	<2.0	0.47 J	<4.0	2.5 J	52	<5.0	<5.0	<5.0	<150	
	02/24/04			50.27	0.00	58.98	140	6.8	0.53 J	0.99 J	0.95 J	3.0 J	35 J	<5.0	<5.0	<5.0	<150	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-19	05/25/04	MD	109.25	50.90	0.00	58.35	76	9.9	0.51 J	0.65 J	0.58 J	2.2 J	36	<5.0	<5.0	<5.0	<150	
	08/24/04			51.38	0.00	57.87	100	12	0.58 J	1.2 J	1.5 J	1.9 J	22 J	<5.0	<5.0	<5.0	<150	
	11/16/04			51.81	0.00	57.44	-	-	-	-	-	-	-	-	-	-	-	
	11/17/04			-	-	-	99	6.4	<2.0	0.50 J	<4.0	3.4 J	22 J	0.25 J	<5.0	<5.0	<150	
	02/08/05			52.09	0.00	57.16	100	8.1	0.37 J	0.68 J	0.94 J	1.7 J	12 J	<5.0	<5.0	<5.0	<150	
	05/03/05			52.05	0.00	57.20	490	290	3.1 J	43	29	1.8 J	<200	<20	<20	<20	<600	
	08/02/05			51.99	0.00	57.26	1,200	680	<20	69	12 J	<50	<500	<50	<50	<50	<1,500	
	11/01/05			51.75	0.00	57.50	260	18	<2.0	0.76 J	0.91 J	3.6 J	13 J	<5.0	<5.0	<5.0	<150	
	01/31/06			51.40	0.00	57.85	190	34	0.59 J	1.8 J	1.7 J	2.6 J	13 J	<5.0	<5.0	0.39 J	<150	
	05/02/06			51.19	0.00	58.06	450	200	0.61 J	3.8	3.5 J	2.3 J	15 J	<5.0	<5.0	<5.0	<150	
	08/01/06			50.88	0.00	58.37	380	120	<4.0	2.3 J	2.5 J	2.4 J	18 J	<10	<10	<10	<300	
	11/07/06			50.66	0.00	58.59	4,900	3,000	6.0	320	22	1.8 J	15 J	<10	<10	<10	<300	
	02/13/07			50.31	0.00	58.94	170	21	<1.0	0.86 J	<1.0	1.2	<25	<2.0	<2.0	<2.0	<500	
	05/01/07			50.49	0.00	58.76	170	28	<1.0	<1.0	<1.0	1.7	26	<2.0	<2.0	<2.0	<500	
	08/07/07			50.50	0.00	58.75	1,300	740	<10	4.8 J	17	<10	<250	<20	<20	<20	<5,000	
MW-20	06/26/90		106.37	56.65	0.00	49.72	400	10	<2	<2	22	-	-	-	-	-	-	
	06/29/93			54.95	0.00	51.42	1,400	240	41	37	120	-	-	-	-	-	-	
	09/20/93			54.17	0.00	52.20	2,500	438	157	74	237	-	-	-	-	-	-	
	11/15/93			53.57	0.00	52.80	500	41	120	6.0	15	-	-	-	-	-	-	
	04/18/94			52.47	0.00	53.90	720	90	49	23	81	-	-	-	-	-	-	
	11/04/94			49.97	0.00	56.40	4,900	1,200	72	430	870	-	-	-	-	-	-	
	03/20/95			48.76	0.00	57.61	1,600	330	12	46	150	-	-	-	-	-	-	
	04/13/95			48.49	0.00	57.88	6,100	1,100	18	350	580	-	-	-	-	-	-	
	09/08/95			47.42	0.00	58.95	5,300	1,500	15	420	650	-	-	-	-	-	-	
	11/15/95			47.12	0.00	59.25	6,300	230	6.8	370	540	-	-	-	-	-	-	
	01/22/96			49.31	0.00	57.06	1,900	430	<3.0	220	370	-	-	-	-	-	-	
	04/30/96			46.10	0.00	60.27	3,100	630	<6.0	560	560	-	-	-	-	-	-	
	07/31/96			46.10	0.00	60.27	1,500	200	1.9	140	240	43	-	-	-	-	-	
	11/22/96			45.93	0.00	60.44	1,800	280	3.4	230	310	<10	-	-	-	-	-	
	03/14/97			44.91	0.00	61.46	2,800	350	<3.0	340	500	<10	-	-	-	-	-	
	05/05/97			44.55	0.00	61.82	1,700	130	1.7	220	130	64	-	-	-	-	-	
	07/22/97			44.70	0.00	61.67	960	130	1.8	120	160	<25	-	-	-	-	-	
	10/10/97			44.88	0.00	61.49	4,500	730	<5.1	580	750	96	-	-	-	-	-	
	01/30/98			44.46	0.00	61.91	1,600	310	17	160	100	<20	-	-	-	-	-	
	06/05/98			43.35	0.00	63.02	830	67	3.7	1.6	5.8	48	-	-	-	-	-	
	09/14/98			42.35	0.00	64.02	1,400	170	13	52	140	<50	-	-	-	-	-	
	12/18/98			42.45	0.00	63.92	580	52	5.3	25	31	33	-	-	-	-	-	
	02/15/99			42.35	0.00	64.02	480	39	3.0	24	19	23	-	-	-	-	-	
	05/12/99			42.65	0.00	63.72	170	22	3.2	16	8.5	<10	-	-	-	-	-	
	09/21/99			43.29	0.00	63.08	200	18	<0.30	1.3	0.95	<10	-	-	-	-	-	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-20	12/07/99		106.37	43.76	0.00	62.61	220	16	<2.0	2.7	<4.0	10	-	-	-	-	-	
	03/21/00		106.44	44.14	0.00	62.30	170	18	<1.0	0.46 J	<1.0	11	-	-	-	-	-	
	06/14/00			44.54	0.00	61.90	110	37	<2.0	3.1	<4.0	20	<50	<5.0	<5.0	<5.0	-	
	08/23/00			44.19	0.00	62.25	58	6.8	0.31 J	3.4	5.0	59	82	1.7 J	<5.0	<5.0	-	
	12/08/00			45.67	0.00	60.77	7,200	980	96	450	980	190	360	4.3 J	<5.0	<5.0	-	
	02/15/01			45.85	0.00	60.59	2,700	510	26	52	370	99	120	<5.0	<5.0	<5.0	-	
	06/14/01			46.02	0.00	60.42	14,000	2,500	<60	830	1,700	700	<500	<50	<50	<50	-	
	09/14/01			46.75	0.00	59.69	7,700	1,600	16	650	980	1,000	330	6.2 J	<12	9.0 J	-	
	12/07/01			47.12	0.00	59.32	14,000	3,100	<500	1,500	2,100	1,500	940	6.0 J	<20	7.0 J	-	
	03/28/02			47.59	0.00	58.85	8,100	1,600	<250	750	650	1,500	350	<20	<20	<20	-	
	06/06/02		108.58	47.57	0.00	61.01	7,700	1,400	3.4 J	740	370	1,600	720	5.2 J	<25	7.4 J	-	
	09/05/02			48.35	0.00	60.23	6,800	1,900	3.4 J	900	200	1,500	420	4.9 J	<20	10 J	-	
	12/05/02			49.03	0.00	59.55	6,100	1,800	4.6 J	760	37	2,100	470	5.2 J	<20	8.8 J	-	
	02/18/03			49.30	0.00	59.28	8,800	1,900	<50	680	73 J	2,000	720 J	<120	<120	11 J	<3,800	
	05/19/03			49.46	0.00	59.12	4,600	1,500	<50	520	48 J	1,900	510 J	<120	<120	12 J	<3,800	
	08/19/03			49.70	0.00	58.88	5,500	920	<50	270	39 J	1,900	420 J	<120	<120	10 J	<3,800	
	11/18/03			50.31	0.00	58.27	2,700	430	<50	110	28 J	1,200	410 J	<120	<120	<120	<3,800	
	02/24/04			50.14	0.00	58.44	5,000	1,100	<50	420	110	3,300	660 J	<120	<120	18 J	<3,800	
	05/25/04			50.74	0.00	57.84	4,600	860	<40	420	62 J	3,400	920 J	6.2 J	<100	19 J	<3,000	
	08/24/04			51.26	0.00	57.32	4,600	760	<40	330	56 J	3,600	660 J	6.4 J	<100	28 J	<3,000	
	11/16/04			51.94	0.00	56.64	4,600	93	<10	36	5.8 J	340	61 J	<25	<25	2.5 J	<750	
	02/08/05			52.14	0.00	56.44	4,500	680	<100	220	34 J	3,900	580 J	<250	<250	26 J	<7,500	
	05/03/05			51.93	0.00	56.65	5,600	630	<100	99 J	70 J	4,800	910 J	<250	<250	<250	<7,500	
	08/02/05			52.02	0.00	56.56	7,000	2,600	14 J	400	240	1,400	710 J	<200	<200	<200	<6,000	
	11/01/05			51.57	0.00	57.01	6,700	590	<100	68 J	<200	2,500	1,000 J	<250	<250	16 J	<7,500	
	01/31/06			51.07	0.00	57.51	3,500	560	<20	43	61	2,800	2,200	5.7 J	<50	23 J	<1,500	
	05/02/06			50.93	0.00	57.65	3,500	<50	<50	<50	<100	<120	11,000	<120	<120	<120	<3,800	
	08/01/06			50.61	0.00	57.97	3,400	230	<40	11 J	<80	1,100	3,800	<100	<100	<100	<3,000	
	11/07/06			50.37	0.00	58.21	6,100	2,300	140	290	490	820	1,100	2.8 J	<20	<20	<600	
	02/13/07			50.31	0.00	58.27	810	68	6.4	7.7	13	380	4,000	4.2 J	<10	3.0 J	<2,500	
	05/01/07			49.85	0.00	58.73	1,600	380	11	29	64	210	2,800	<10	<10	<10	<2,500	
	08/07/07			50.00	0.00	58.58	5,800	3,000	39 J	460	740	220	2,300	<100	<100	<100	<25,000	
MW-A1	01/30/98		107.68	44.38	0.00	63.30	<50	<0.30	<0.30	<0.30	<0.60	<10	-	-	-	-	-	
	06/05/98			43.30	0.00	64.38	<50	<0.30	<0.30	<0.30	<0.60	<10	-	-	-	-	-	
	09/14/98			42.75	0.00	64.93	<50	<0.30	<0.30	<0.30	<0.60	<10	-	-	-	-	-	
	12/18/98			42.65	0.00	65.03	<50	<0.30	<0.30	<0.30	0.93	<10	-	-	-	-	-	
	02/15/99			42.80	0.00	64.88	64	1.0	8.3	1.7	11	<10	-	-	-	-	-	
	05/12/99			42.90	0.00	64.78	<50	<0.3	<0.3	<0.3	<0.6	<10	-	-	-	-	-	
	09/29/99			43.95	0.00	63.73	<50	<2.0	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	
	12/07/99			44.45	0.00	63.23	<50	<2.0	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A1	03/21/00		105.52	44.47	0.00	61.05	<50	<2.0	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	Paved over Paved over
	06/14/00	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	08/23/00	INA		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	12/08/00			46.30	0.00	59.22	50	1.5	<0.30	0.33	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	02/15/01			46.45	0.00	59.07	<50	<0.30	<0.30	<0.30	0.99	<5.0	<50	<5.0	<5.0	<5.0	-	
	06/14/01			46.65	0.00	58.87	<50	<0.30	<0.30	0.50	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	09/14/01			47.25	0.00	58.27	22 J	<0.30	0.23 J	0.32	0.54 J	4.9 J	5.8 J	<5.0	<5.0	<5.0	-	
	12/07/01			47.68	0.00	57.84	<100	<5.0	<5.0	<5.0	1.1 J	8.0	9.5 J	<5.0	<5.0	<5.0	-	
	03/28/02			47.71	0.00	57.81	<100	<5.0	<5.0	<5.0	<5.0	19	15 J	<5.0	<5.0	<5.0	-	
	06/06/02		107.69	47.93	0.00	59.76	30 J	<2.0	<2.0	<2.0	<4.0	11	20 J	<5.0	<5.0	<5.0	-	
	09/05/02			48.75	0.00	58.94	28 J	<2.0	<2.0	<2.0	<4.0	18	21 J	<5.0	<5.0	<5.0	-	
	12/05/02			49.35	0.00	58.34	50	<2.0	<2.0	<2.0	<4.0	18	28 J	<5.0	<5.0	<5.0	-	
	02/18/03			49.61	0.00	58.08	23 J	<2.0	<2.0	<2.0	<4.0	12	17 J	0.91 J	<5.0	<5.0	<150	
	05/19/03			49.71	0.00	57.98	29 J	<2.0	<2.0	<2.0	<4.0	14	20 J	1.6 J	<5.0	<5.0	<150	
	08/19/03			49.98	0.00	57.71	<50	<2.0	<2.0	<2.0	<4.0	7.2	7.5 J	1.0 J	<5.0	<5.0	<150	
	11/18/03			50.42	0.00	57.27	26 J	<2.0	<2.0	<2.0	<4.0	4.8 J	6.5 J	0.58 J	<5.0	<5.0	<150	
	02/24/04			50.70	0.00	56.99	<50	<2.0	<2.0	<2.0	<4.0	2.7 J	5.4 J	0.69 J	<5.0	<5.0	<150	
	05/25/04			51.01	0.00	56.68	<50	0.94 J	<2.0	<2.0	<4.0	4.1 J	<50	0.56 J	<5.0	<5.0	<150	
	08/24/04			51.57	0.00	56.12	25 J	1.4 J	0.55 J	0.26 J	0.74 J	2.0 J	<50	0.39 J	<5.0	<5.0	<150	
	11/16/04			52.18	0.00	55.51	<50	4.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/08/05			52.00	0.00	55.69	22 J	1.8 J	<2.0	0.42 J	1.5 J	0.86 J	<50	<5.0	<5.0	<5.0	<150	
	05/03/05			52.26	0.00	55.43	<50	1.6 J	<2.0	0.34 J	0.56 J	1.2 J	<50	0.35 J	<5.0	<5.0	<150	
	08/02/05			52.14	0.00	55.55	<50	1.1 J	<2.0	<2.0	<4.0	2.3 J	<50	0.69 J	<5.0	<5.0	<150	
	11/01/05			51.74	0.00	55.95	28 J	1.5 J	<2.0	0.35 J	0.61 J	2.2 J	5.5 J	0.58 J	<5.0	<5.0	<150	
	01/31/06			51.39	0.00	56.30	32 J	<2.0	<2.0	<2.0	<4.0	1.8 J	8.9 J	0.44 J	<5.0	<5.0	<150	
	05/02/06			50.95	0.00	56.74	33 J	1.6 J	<2.0	0.35 J	<4.0	3.0 J	15 J	0.70 J	<5.0	<5.0	<150	
	08/01/06			50.63	0.00	57.06	46 J	0.78 J	<2.0	<2.0	<4.0	4.0 J	19 J	0.93 J	<5.0	<5.0	<150	
	11/07/06			50.21	0.00	57.48	36 J	2.0	<2.0	0.47 J	<4.0	3.7 J	25 J	0.91 J	<5.0	<5.0	<150	
	02/13/07			50.24	0.00	57.45	34 J	2.7	1.0 J	0.76 J	1.2 J	6.2	17 J	1.1 J	<5.0	<5.0	<150	
	05/01/07			50.14	0.00	57.55	43 J	2.6	<2.0	0.49 J	<4.0	7.1	16 J	1.2 J	<5.0	<5.0	<150	
	08/07/07			50.29	0.00	57.40	33 J	2.8	<2.0	<2.0	<4.0	7.7	16 J	1.2 J	<5.0	<5.0	<150	
MW-A2	01/30/98		107.91	41.76	0.00	66.15	390	15	3.0	1.6	3.2	<10	-	-	-	-	-	
	06/05/98			38.90	0.00	69.01	190	7.8	<0.30	1.3	3.4	13	-	-	-	-	-	
	09/14/98			38.90	0.00	69.01	220	12	0.68	1.3	2.2	<10	-	-	-	-	-	
	12/18/98			37.30	0.00	70.61	250	9.7	1.4	1.4	2.5	<20	-	-	-	-	-	
	02/15/99			36.85	0.00	71.06	350	15	6.6	2.9	12	12	-	-	-	-	-	
	05/12/99			36.45	0.00	71.46	310	7.5	1.5	0.93	2.1	<10	-	-	-	-	-	
	09/29/99			36.57	0.00	71.34	<50	7.6	<2.0	<2.0	<4.0	<10	-	-	-	-	-	
	12/07/99			39.61	0.00	68.30	98	4.9	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	
	03/21/00		105.25	37.37	0.00	67.88	84	3.9	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	

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Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A2	06/14/00		105.25	37.95	0.00	67.30	50	2.8	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	08/23/00			38.04	0.00	67.21	<500	2.6	0.34 J	0.42 J	1.2 J	<5.0	<50	<5.0	<5.0	<5.0	-	
	12/08/00			38.95	0.00	66.30	77	2.3	0.70	0.52	1.6	<5.0	<50	<5.0	<5.0	<5.0	-	
	02/15/01			46.42	0.00	58.83	<50	1.2	<0.30	<0.30	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	06/14/01			39.45	0.00	65.80	<50	0.66	<0.30	<0.30	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	09/14/01			40.86	0.00	64.39	24 J	0.35	0.63	0.15 J	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	12/07/01			44.18	0.00	61.07	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	03/28/02			45.36	0.00	59.89	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	-	
	03/28/02	DUP	107.40	-	-	-	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	-	
	06/06/02			43.87	0.00	63.53	53	<2.0	0.26 J	<2.0	0.38 J	<5.0	<50	<5.0	<5.0	<5.0	-	
	06/06/02	DUP		-	-	-	12 J	<2.0	0.14 J	<2.0	0.22 J	<5.0	<50	<5.0	<5.0	<5.0	-	
	09/05/02			51.20	0.00	56.20	11 J	<2.0	<2.0	<2.0	0.19 J	<5.0	<50	<5.0	<5.0	<5.0	-	
	12/05/02			45.85	0.00	61.55	34 J	13	<2.0	4.9	0.55 J	2.9 J	2.0 J	<5.0	<5.0	<5.0	-	
	02/18/03			47.68	0.00	59.72	26 J	5.6	<2.0	2.3	<4.0	0.72 J	<50	<5.0	<5.0	<5.0	<150	
	05/19/03			48.51	0.00	58.89	97	19	0.61 J	12	<4.0	1.8 J	<50	<5.0	<5.0	<5.0	<150	
	08/19/03			49.05	0.00	58.35	57	13	0.41 J	5.4	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/18/03			49.46	0.00	57.94	740	270	25	72	21	1.2 J	<50	<5.0	<5.0	<5.0	<150	
	02/24/04			49.85	0.00	57.55	2,700	920	34	200	150	<50	<500	<50	<50	<50	<1,500	
	05/25/04			50.13	0.00	57.27	7,000	2,100	460	420	990	<200	<2,000	<200	<200	<200	<6,000	
	08/24/04			51.03	0.00	56.37	4,300	1,500	260	230	440	<200	<2,000	<200	<200	<200	<6,000	
	11/16/04			51.43	0.00	55.97	2,200	330	46	61	130	<20	<200	<20	<20	<20	<600	
	02/08/05			51.10	0.00	56.30	2,100	290	15	50	100	<20	<200	<20	<20	<20	<600	
	05/03/05			51.39	0.00	56.01	7,100	3,000	43 J	560	1,200	<250	<2,500	<250	<250	<250	<7,500	
	08/02/05			51.39	0.00	56.01	15,000	3,700	36 J	620	1,100	<250	600 J	<250	<250	<250	<7,500	
	11/01/05			50.88	0.00	56.52	3,200	1,800	25	300	480	<50	<500	<50	<50	<50	<1,500	
	01/31/06			50.50	0.00	56.90	3,400	3,700	32 J	510	240	<200	<2,000	<200	<200	<200	<6,000	
	05/02/06			50.15	0.00	57.25	630	680	<100	44 J	<200	3,100	5,300	<250	<250	22 J	<7,500	
	08/01/06			49.82	0.00	57.58	2,900	1,500	6.4 J	150	110	<50	<500	<50	<50	<50	<1,500	
	11/07/06			49.60	0.00	57.80	6,400	3,200	<100	210	110 J	<250	<2,500	<250	<250	<250	<7,500	
	02/13/07			49.40	0.00	58.00	4,200	2,100	8.2	210	240	<20	<200	<20	<20	<20	<600	
	05/01/07			49.36	0.00	58.04	4,300	2,800	<80	250	<160	<200	<2,000	<200	<200	<200	<6,000	
	08/07/07			49.53	0.00	57.87	4,300	2,300	<100	<100	<200	<250	<2,500	<250	<250	<250	<7,500	
MW-A3	12/07/99		106.00	44.72	0.00	61.28	16,000	2,900	510	1,000	3,800	390	-	-	-	-	-	
	03/21/00		106.76	45.15	0.00	61.61	9,000	3,000	550	810	2,040	180	-	-	-	-	-	
	06/14/00			45.39	0.00	61.37	1,500	190	14	53	210	44	130	<10	<10	<10	-	
	08/23/00			45.17	0.00	61.59	2,500	460	25	230	99	28	25 J	3.6 J	<25	<25	-	
	08/23/00	DUP		-	-	-	3,000	470	42	220	160	32	32 J	3.3 J	<20	<20	-	
	12/08/00			46.04	0.00	60.72	3,000	410	20	150	270	27	20 J	2.3 J	<5.0	<5.0	-	
	02/15/01			46.20	0.00	60.56	2,800	690	14	300	120	39	<50	<5.0	<5.0	<5.0	-	
	06/14/01			46.37	0.00	60.39	2,800	720	<6.0	350	58	42	<50	<5.0	<5.0	<5.0	-	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A3	09/14/01		106.76	46.99	0.00	59.77	4,200	1,300	36	340	510	43	20 J	2.4 J	<5.0	<5.0	-	
	12/07/01			47.46	0.00	59.30	7,700	2,900	51 J	730	1,100	62	18 J	3.0 J	<5.0	<5.0	-	
	03/28/02		108.97	47.75	0.00	61.22	4,200	1,800	<50	420	250	75	21 J	2.8 J	<5.0	<5.0	-	
	06/06/02			47.98	0.00	60.99	5,100	1,900	7.1	500	380	50	54	2.2 J	<5.0	<5.0	-	
	09/05/02			48.75	0.00	60.22	2,800	1,100	10	240	560	120	34 J	<20	<20	<20	-	
	12/05/02			49.47	0.00	59.50	4,200	1,600	3.4 J	670	180	200	51 J	3.6 J	<20	<20	-	
	02/18/03			49.66	0.00	59.31	6,500	1,300	<2.0	660	280	320	100 J	<50	<50	<50	<1,500	
	05/19/03			49.81	0.00	59.16	3,100	910	<20	74	58	240	54 J	<50	<50	<50	<1,500	
	08/19/03			50.04	0.00	58.93	4,700	1,400	<40	260	390	300	<1,000	6.8 J	<100	<100	<3,000	
	11/18/03			50.93	0.00	58.04	4,000	1,300	<40	280	460	280	170 J	12 J	<100	<100	<3,000	
	02/24/04			50.84	0.00	58.13	11,000	3,700	<50	330	800	500	400 J	24 J	<120	<120	<3,800	
	02/24/04	DUP		-	-	-	12,000	3,800	<100	310	760	520	380 J	25 J	<250	<250	<7,500	
	05/25/04			51.17	0.00	57.80	7,900	3,700	<50	210	370	520	520 J	23 J	<120	<120	<3,800	
	05/25/04	DUP		-	-	-	7,400	2,800	<100	160	270	430	380 J	18 J	<250	<250	<7,500	
	08/24/04			51.67	0.00	57.30	9,600	4,000	<50	150	200	720	570 J	23 J	<120	<120	<3,800	
	08/24/04	DUP		-	-	-	9,100	1,900	<100	78 J	98 J	320	290 J	<250	<250	<250	<7,500	
	11/16/04			50.81	0.00	58.16	7,000	2,900	<80	<80	<160	570	<2,000	<200	<200	<200	<6,000	
	11/16/04	DUP		-	-	-	4,900	2,300	<40	<40	<80	520	<1,000	<100	<100	<100	<3,000	
	02/08/05			52.08	0.00	56.89	5,400	2,600	<100	36 J	<200	520	320 J	12 J	<250	<250	<7,500	
	02/08/05	DUP		-	-	-	5,900	2,600	<80	36 J	<160	490	340 J	12 J	<200	<200	<6,000	
	05/03/05			52.45	0.00	56.52	5,300	2,500	<100	28 J	<200	490	<2,500	12 J	<250	<250	<7,500	
	05/03/05	DUP		-	-	-	4,700	1,900	<20	22	<40	440	330 J	13 J	<50	10 J	<1,500	
	08/02/05			52.31	0.00	56.66	2,900	1,000	<50	10 J	<100	270	180 J	7.0 J	<120	<120	<3,800	
	08/02/05	DUP		-	-	-	2,200	950	<20	9.8 J	<40	270	170 J	6.2 J	<50	<50	<1,500	
	11/01/05			51.87	0.00	57.10	2,900	1,300	<50	24 J	<100	320	160 J	6.2 J	<120	<120	<3,800	
	11/01/05	DUP		-	-	-	3,100	1,300	<20	22	<40	420	190 J	7.5 J	<50	<50	<1,500	
	01/31/06			51.63	0.00	57.34	39 J	0.61 J	<2.0	<2.0	<4.0	4.2 J	<50	<5.0	<5.0	<5.0	<150	
	01/31/06	DUP		-	-	-	46 J	0.44 J	<2.0	<2.0	<4.0	4.2 J	<50	<5.0	<5.0	<5.0	<150	
	05/02/06			51.39	0.00	57.58	4,400	1,000	<40	54	<80	<100	<1,000	<100	<100	<100	<3,000	
	05/02/06	DUP		-	-	-	4,100	1,400	<40	24 J	<80	370	230 J	5.6 J	<100	<100	<3,000	
	08/01/06			51.08	0.00	57.89	3,100	1,200	<80	24 J	<160	290	<2,000	<200	<200	<200	<6,000	
	08/01/06	DUP		-	-	-	2,900	1,200	<20	25	<40	340	140 J	6.1 J	<50	<50	<1,500	
	11/07/06			50.43	0.00	58.54	2,700	1,100	<20	38	<40	230	<500	3.9 J	<50	<50	<1,500	
	11/07/06	DUP		-	-	-	2,400	870	<20	37	<40	210	110 J	3.0 J	<50	<50	<1,500	
	02/13/07			50.68	0.00	58.29	2,000	530	0.73 J	19	2.2 J	300	180	4.9 J	<5.0	2.0 J	<150	
	02/13/07	DUP		-	-	-	2,000	640	0.48 J	16	1.7 J	390	170	5.1	<5.0	2.3 J	<150	
	05/01/07			50.60	0.00	58.37	1,800	730	<40	11 J	<80	370	210 J	<100	<100	<100	<3,000	
	05/01/07	DUP		-	-	-	2,200	610	<20	8.9 J	<40	350	190 J	3.5 J	<50	<50	<1,500	
	08/07/07			50.29	0.00	58.68	390	34	<8.0	<8.0	<16	260	120 J	3.2 J	<20	<20	<600	
	08/07/07	DUP		50.29	0.00	58.68	340	28	<2.0	0.31 J	<4.0	210	150	3.8 J	<5.0	1.1 J	<150	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A4	12/07/99		108.48	45.57	0.00	62.91	36,000	6,500	8,400	1,400	4,900	<500	-	-	-	-	-	
	03/21/00		108.56	46.00	0.00	62.56	28,000	7,400	9,800	1,500	4,200	<500	-	-	-	-	-	
	03/21/00	DUP		-	-	-	34,000	7,200	9,700	1,400	4,200	<500	-	-	-	-	-	
	06/14/00			46.45	0.00	62.11	44,000	8,600	11,000	1,700	6,100	<400	<4,000	<400	<400	<400	<400	-
	06/14/00	DUP		-	-	-	42,000	9,000	12,000	1,800	6,500	<400	<4,000	<400	<400	<400	<400	-
	08/23/00			46.11	0.00	62.45	49,000	9,000	13,000	1,700	6,300	20 J	<4,000	<400	<400	<400	<400	-
	12/08/00			47.50	0.00	61.06	45,000	7,900	8,500	1,500	5,000	<20	86 J	<20	<20	<20	<20	-
	12/08/00	DUP		-	-	-	46,000	8,200	9,000	1,600	5,500	1.1 J	110	<5.0	<5.0	<5.0	<5.0	-
	02/15/01			47.66	0.00	60.90	22,000	5,500	4,100	440	3,100	<20	<200	<20	<20	<20	<20	-
	02/15/01	DUP		-	-	-	23,000	5,300	4,000	120	3,600	<5.0	<50	<5.0	<5.0	<5.0	<5.0	-
	06/14/01			47.78	0.00	60.78	29,000	7,200	4,800	1,600	4,800	<5.0	<50	<5.0	<5.0	<5.0	<5.0	-
	06/14/01	DUP		-	-	-	29,000	6,600	4,400	1,500	4,400	<5.0	<50	<5.0	<5.0	<5.0	<5.0	-
	09/14/01			48.38	0.00	60.18	33,000	7,700	7,100	1,700	4,900	<20	<200	<20	<20	<20	<20	-
	09/14/01	DUP		-	-	-	33,000	6,600	6,100	1,500	4,200	<5.0	54	<5.0	<5.0	<5.0	<5.0	-
	12/07/01			48.85	0.00	59.71	21,000	5,200	2,800	800 J	3,100	<5.0	94	<5.0	<5.0	<5.0	<5.0	-
	12/07/01	DUP		-	-	-	24,000	5,200	3,000	790 J	3,200	<5.0	110	<5.0	<5.0	<5.0	<5.0	-
	03/28/02			49.10	0.00	59.46	12,000	5,000	640	1,300	1,200	<20	47 J	<20	<20	<20	<20	-
	06/06/02		110.71	49.30	0.00	61.41	20,000	5,200	1,400	1,200	2,000	<20	56 J	<20	<20	<20	<20	-
	09/05/02			50.07	0.00	60.64	14,000	5,000	920	910	2,000	<50	<500	<50	<50	<50	<50	-
	09/05/02	DUP		-	-	-	11,000	3,500	320	740	570	0.31 J	46 J	<5.0	<5.0	<5.0	<5.0	-
	12/05/02			50.12	0.00	60.59	11,000	3,200	420	480	1,000	<25	51 J	<25	<25	<25	<25	-
	12/05/02	DUP		-	-	-	10,000	2,300	310	460	840	<25	59 J	<25	<25	<25	<25	-
	02/18/03			59.99	0.00	50.72	21,000	3,500	510	800	2,300	<100	<1,000	<100	<100	<100	<100	<3,000
	02/18/03	DUP		-	-	-	36,000	7,100	1,200	1,600	5,600	<500	<5,000	<500	<500	<500	<500	<15,000
	05/19/03			51.13	0.00	59.58	23,000	5,400	1,300	1,200	3,800	<500	<5,000	<500	<500	<500	<500	<15,000
	05/19/03	DUP		-	-	-	21,000	5,000	1,200	1,000	3,400	<500	<5,000	<500	<500	<500	42 J	<15,000
	08/19/03			61.33	0.00	49.38	11,000	4,400	490	950	2,600	<250	<2,500	<250	<250	<250	<250	<7,500
	08/19/03	DUP		-	-	-	16,000	5,000	540	960	2,700	<500	<5,000	<500	<500	<500	<500	<15,000
	11/18/03			51.84	0.00	58.87	16,000	4,500	1,600	880	3,000	<250	<2,500	<250	<250	<250	<250	<7,500
	11/18/03	DUP		-	-	-	12,000	4,500	1,700	910	3,000	<200	220 J	<200	<200	<200	<200	<6,000
	02/24/04			52.00	0.00	58.71	9,900	4,000	670	650	1,500	<250	<2,500	<250	<250	<250	<250	<7,500
	05/25/04			52.37	0.00	58.34	22,000	8,400	1,900	1,500	4,500	<250	<2,500	<250	<250	<250	<250	<7,500
	08/24/04			52.26	0.00	58.45	20,000	7,000	1,200	1,100	2,700	<250	<2,500	<250	<250	<250	<250	<7,500
	11/16/04			53.44	0.00	57.27	24,000	7,400	980	1,100	2,700	<500	<5,000	<500	<500	<500	<500	<15,000
	02/08/05			53.60	0.00	57.11	26,000	9,000	1,400	1,600	4,100	<250	<2,500	<250	<250	<250	<250	<7,500
	05/03/05			53.49	0.00	57.22	30,000	11,000	1,700	1,800	4,600	<500	<5,000	<500	<500	<500	<500	<15,000
	08/02/05			53.50	0.00	57.21	34,000	11,000	550	1,400	2,900	<1,000	<10,000	<1,000	<1,000	<1,000	<1,000	<30,000
	11/01/05			53.23	0.00	57.48	37,000	11,000	1,300	1,700	4,200	<500	<5,000	<500	<500	<500	<500	<15,000
	01/31/06			52.88	0.00	57.83	23,000	9,000	770	1,300	2,900	<500	<5,000	<500	<500	<500	<500	<15,000
	05/02/06			52.63	0.00	58.08	26,000	13,000	<400	220 J	<800	3,400	1,800 J	58 J	<1,000	<1,000	<30,000	

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Summary of Groundwater Analytical & Elevation Results
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5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A4	08/01/06		110.71	52.36	0.00	58.35	26,000	9,500	730	1,200	2,500	<500	<5,000	<500	<500	<500	<15,000	
	11/07/06			51.84	0.00	58.87	29,000	12,000	1,300	1,600	3,300	<400	<4,000	<400	<400	<400	<12,000	
	02/13/07			51.90	0.00	58.81	22,000	8,800	550	1,000	1,900	<100	<1000	<100	<100	<100	<3,000	
	05/01/07			51.90	0.00	58.81	21,000	10,000	920	1,300	2,500	<1,000	<10,000	<1,000	<1,000	<1,000	<30,000	
	08/07/07			51.95	0.00	58.76	20,000	9,000	910	1,100	2,200	<500	<5,000	<500	<500	<500	<15,000	
MW-A5	12/07/01		105.72	47.11	0.00	58.61	<100	1.4 J	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	03/28/02			47.36	0.00	58.36	110	<5.0	<5.0	1.1 J	2.4 J	<5.0	<25	<5.0	<5.0	<5.0	-	
	06/06/02		107.91	47.52	0.00	60.39	23 J	<2.0	<2.0	0.19 J	0.47 J	0.30 J	<50	<5.0	<5.0	<5.0	-	
	09/05/02			48.37	0.00	59.54	120	<2.0	<2.0	0.35 J	0.43 J	<5.0	<50	<5.0	<5.0	<5.0	-	
	12/05/02			49.05	0.00	58.86	60	<2.0	<2.0	<2.0	<4.0	0.58 J	8.4 J	<5.0	<5.0	<5.0	-	
	02/18/03			49.06	0.00	58.85	300	1.9 J	<2.0	5.8	31	27	15 J	1.6 J	<5.0	<5.0	<150	
	05/19/03			49.41	0.00	58.50	680	35	<10	59	300	100	97 J	7.8 J	<25	<25	<750	
	08/19/03			49.70	0.00	58.21	260	3.9	0.38 J	1.9 J	62	73	61	4.1 J	<5.0	<5.0	<150	
	11/18/03			50.15	0.00	57.76	420	6.4	1.0 J	4.4	140	180	7.3	<5.0	<5.0	<5.0	<150	
	02/24/04			50.43	0.00	57.48	660	16	1.8 J	16	220	160	310	10	<10	<10	<300	
	05/25/04			50.74	0.00	57.17	1,000	26	1.6 J	22	190	290	440	14	<10	<10	<300	
	08/24/04			51.30	0.00	56.61	1,000	74	16	37	250	290	770	15	<10	<10	<300	
	11/16/04			51.90	0.00	56.01	2,400	180	<8.0	93	660	370	790	<20	<20	<20	<600	
	02/08/05			51.84	0.00	56.07	1,100	53	1.4 J	18	210	280	440	11	<10	<10	<300	
	05/03/05			51.95	0.00	55.96	490	37	<5.0	1.9 J	15	190	390	8.3 J	<12	<12	<380	
	08/02/05			51.88	0.00	56.03	250	40	<4.0	0.92 J	3.1 J	140	250	6.1 J	<10	<10	<300	
	11/01/05			51.45	0.00	56.46	180	44	<4.0	0.76 J	3.5 J	140	170	4.4 J	<10	<10	<300	
	01/31/06			51.17	0.00	56.74	140	14	0.92 J	1.3 J	1.9 J	65	92	1.9 J	<5.0	<5.0	<150	
	05/02/06			50.77	0.00	57.14	310	96	0.76 J	2.3	10	110	140	2.1 J	<5.0	<5.0	<150	
	08/01/06			50.45	0.00	57.46	190	31	0.52 J	1.1 J	2.1 J	110	100	2.4 J	<5.0	0.47 J	<150	
	11/07/06			50.21	0.00	57.70	110	26	0.51 J	1.5 J	2.8 J	56	37 J	1.1 J	<5.0	<5.0	<150	
	02/13/07			50.07	0.00	57.84	190	36	<4.0	2.2 J	2.6 J	130	63 J	2.3 J	<10	<10	<300	
	05/01/07			49.99	0.00	57.92	170	35	<2.0	0.69 J	1.3 J	190	92	3.4 J	<5.0	0.79 J	<150	
	08/07/07			50.05	0.00	57.86	160	23	<2.0	0.49 J	1.3 J	210	100	3.0 J	<5.0	1.0 J	<150	
MW-A6	12/07/01		105.78	46.86	0.00	58.92	150	59	<5.0	<5.0	<5.0	<5.0	18 J	<5.0	<5.0	<5.0	-	
	03/28/02			47.06	0.00	58.72	58 J	31	<5.0	<5.0	<5.0	<5.0	10 J	<5.0	<5.0	<5.0	-	
	06/06/02		107.90	47.26	0.00	60.64	77	30	<2.0	0.18 J	0.31 J	<5.0	18 J	<5.0	<5.0	<5.0	-	
	09/05/02			48.20	0.00	59.70	74	22	<2.0	<2.0	<4.0	<5.0	23 J	<5.0	<5.0	<5.0	-	
	12/05/02			48.75	0.00	59.15	78	28	<2.0	<2.0	<4.0	<5.0	18 J	<5.0	<5.0	<5.0	-	
	02/18/03			47.85	0.00	60.05	60	13	<2.0	<2.0	<4.0	<5.0	26 J	<5.0	<5.0	<5.0	<150	
	05/19/03			48.98	0.00	58.92	66	25	<2.0	<2.0	<4.0	<5.0	15 J	<5.0	<5.0	<5.0	<150	
	08/19/03			49.21	0.00	58.69	56	24	<2.0	<2.0	<4.0	<5.0	12 J	<5.0	<5.0	<5.0	<150	
	11/18/03			49.62	0.00	58.28	59	17	<2.0	<2.0	<4.0	<5.0	11 J	<5.0	<5.0	<5.0	<150	
	02/24/04			49.91	0.00	57.99	58	20	<2.0	<2.0	<4.0	<5.0	13 J	<5.0	<5.0	<5.0	<150	
	05/25/04			50.25	0.00	57.65	62	19	<2.0	<2.0	<4.0	<5.0	8.2 J	<5.0	<5.0	<5.0	<150	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A6	08/24/04		107.90	50.87	0.00	57.03	94	24	0.39 J	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/16/04			51.44	0.00	56.46	67	21	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/08/05			51.48	0.00	56.42	62	17	<2.0	0.30 J	1.0 J	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/03/05			51.58	0.00	56.32	78	20	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/02/05			51.49	0.00	56.41	76	11	<2.0	<2.0	<4.0	<5.0	5.0 J	0.25 J	<5.0	0.36 J	<150	
	11/01/05			51.00	0.00	56.90	80	11	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	01/31/06			50.77	0.00	57.13	88	7.0	<2.0	<2.0	<4.0	<5.0	7.1 J	<5.0	<5.0	<5.0	<150	
	05/02/06			52.80	0.00	55.10	130	11	<2.0	0.28 J	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/01/06			50.13	0.00	57.77	140	10	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/08/06			49.87	0.00	58.03	150	7.5	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/13/07			49.75	0.00	58.15	110	6.9	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/01/07			49.72	0.00	58.18	88	3.2	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/07/07			49.77	0.00	58.13	110	3.5	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
MW-A7	06/06/02		110.63	49.32	0.00	61.31	55,000	3,500	6,300	2,400	13,000	1,700	1,200	7.1	<5.0	<5.0	-	
	09/05/02			50.12	0.00	60.51	37,000	3,300	3,800	2,400	13,000	2,400	670	<50	<50	16 J	-	
	12/05/02			50.85	0.00	59.78	19,000	2,900	46	1,600	9,100	1,500	630 J	<100	<100	7.4 J	-	
	02/18/03			51.00	0.00	59.63	19,000	2,600	21 J	1,000	4,000	670	400 J	<200	<200	<200	<6,000	
	05/19/03			51.15	0.00	59.48	18,000	2,800	42 J	1,400	6,500	1,700	300 J	<200	<200	<200	<6,000	
	08/19/03			51.37	0.00	59.26	14,000	3,000	<80	1,200	2,400	1,800	530 J	<200	<200	<200	<6,000	
	11/18/03			51.85	0.00	58.78	7,500	1,800	<80	1,200	440	1,700	640 J	<200	<200	<200	<6,000	
	02/24/04			52.07	0.00	58.56	5,800	4,100	15 J	640	210	190 J	<2,000	<200	<200	<200	<6,000	
	05/25/04			52.38	0.00	58.25	4,200	1,800	<80	470	47 J	550	320 J	<200	<200	<200	<6,000	
	08/24/04			52.80	0.00	57.83	4,100	1,600	<80	80	<160	730	890 J	11 J	<200	<200	<6,000	
	11/16/04			53.63	0.00	57.00	2,100	980	<40	<40	<80	210	<1,000	<100	<100	<100	<3,000	
	02/08/05			53.71	0.00	56.92	3,100	1,800	<80	150	140 J	24 J	<2,000	<200	<200	<200	<6,000	
	05/03/05			53.16	0.00	57.47	9,000	4,500	<200	440	440	<500	<5,000	<500	<500	<500	<15,000	
	08/02/05			53.13	0.00	57.50	640	2,100	<80	14 J	190	30 J	490 J	<200	<200	<200	<6,000	
	11/01/05			52.76	0.00	57.87	4,500	2,300	17 J	120	200	54 J	570 J	6.2 J	<120	<120	<3,800	
	01/31/06			52.50	0.00	58.13	3,400	1,500	11 J	92	91	54 J	580 J	5.2 J	<100	<100	<3,000	
	05/02/06			52.23	0.00	58.40	4,600	2,300	9.0 J	170	170	41 J	390 J	<100	<100	<100	<3,000	
	08/01/06			51.87	0.00	58.76	3,300	1,600	8.9 J	110	73	64	530	5.4 J	<50	<50	<1,500	
	11/07/06			51.69	0.00	58.94	5,100	1,700	33	110	140	48 J	420 J	2.5 J	<50	<50	<1,500	
	02/13/07			49.80	0.00	60.83	9,300	4,500	24	310	420	58	270 J	2.9 J	<50	<50	<1,500	
	05/01/07			51.52	0.00	59.11	7,100	3,900	62	260	370	15 J	210 J	<100	<100	<100	<3,000	
	08/07/07			51.46	0.00	59.17	15,000	6,400	56 J	560	920	56 J	<5,000	<500	<500	<500	<15,000	
MW-A8D	01/31/06		107.59	51.80	0.00	55.79	85	1.2 J	<2.0	<2.0	<4.0	11	28 J	0.30 J	<5.0	<5.0	<150	
	05/02/06			51.35	0.00	56.24	88	4.7	0.55 J	0.78 J	1.5 J	12	22 J	0.28 J	<5.0	<5.0	<150	
	08/01/06			51.05	0.00	56.54	120	18	1.1 J	0.87 J	1.4 J	17	23 J	0.31 J	<5.0	<5.0	<150	
	11/08/06			50.74	0.00	56.85	130	26	0.50 J	0.41 J	<4.0	8.9	20 J	0.27 J	<5.0	<5.0	<150	
	02/13/07			50.63	0.00	56.96	150	23	0.59 J	0.71 J	<4.0	13	24 J	0.39 J	<5.0	<5.0	<150	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
MW-A8D	05/01/07		107.59	50.57	0.00	57.02	90	23	<2.0	0.33 J	<4.0	7.7	27 J	0.32 J	<5.0	<5.0	<150	
	08/07/07			50.85	0.00	56.74	54	4.5	<2.0	<2.0	<4.0	9.3	44 J	0.26 J	<5.0	<5.0	<150	
MW-A8S	01/31/06		107.58	51.37	0.00	56.21	73	2.6	1.7 J	0.32 J	1.0 J	51	28 J	0.52 J	<5.0	<5.0	<150	
	05/02/06			50.88	0.00	56.70	620	10	1.1 J	0.97 J	1.2 J	96	48 J	0.65 J	<5.0	<5.0	<150	
	08/01/06			50.57	0.00	57.01	290	56	1.7 J	1.8 J	2.4 J	120	40	0.67 J	<5.0	0.80 J	<150	
	11/08/06			50.17	0.00	57.41	190	53	1.0 J	0.87 J	<4.0	48	21 J	<5.0	<5.0	<5.0	<150	
	02/13/07			50.13	0.00	57.45	430	120	2.1	1.4 J	<4.0	120	51	0.4 J	<5.0	0.89 J	<150	
	05/01/07			50.04	0.00	57.54	310	170	1.5 J	1.2 J	<4.0	130	84	0.43 J	<5.0	0.88 J	<150	
	08/07/07			50.29	0.00	57.29	220	110	0.92 J	0.62 J	<4.0	63	80	<5.0	<5.0	0.41 J	<150	
Field Blank	11/18/03		-	-	-	-	24 J	<2.0	<2.0	<2.0	<4.0	<5.0	8.4 J	<5.0	<5.0	<5.0	<150	
	11/16/04			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/08/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/03/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/02/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/01/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	01/31/06			-	-	-	25 J	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/02/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/01/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/07/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/13/07			-	-	-	<100	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<2.0	<2.0	<2.0	<500	
	08/07/07			-	-	-	<100	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<2.0	<2.0	<2.0	<500	
Trip Blank	09/29/99		-	-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	
	12/07/99			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	-	-	-	-	-	
	06/14/00			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	08/23/00			-	-	-	<50	0.19 J	0.31 J	0.084 J	<4.0	<5.0	15 J	<5.0	<5.0	<5.0	-	
	12/08/00			-	-	-	<50	<0.30	<0.30	<0.30	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	02/15/01			-	-	-	<50	<0.30	<0.30	<0.30	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	06/14/01			-	-	-	<50	<0.30	<0.30	<0.30	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	09/14/01			-	-	-	<50	<0.30	<0.30	<0.30	<0.60	<5.0	<50	<5.0	<5.0	<5.0	-	
	12/07/01			-	-	-	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	03/28/02			-	-	-	<100	<5.0	<5.0	<5.0	<5.0	<5.0	<25	<5.0	<5.0	<5.0	-	
	06/06/02			-	-	-	9.7 J	<2.0	0.18 J	<2.0	0.20 J	<5.0	<50	<5.0	<5.0	<5.0	-	
	09/05/02			-	-	-	12 J	<2.0	0.47 J	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	12/05/02			-	-	-	15	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	-	
	02/18/03			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/19/03			-	-	-	11 J	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/19/03			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/18/03			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/24/04			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/25/04			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Well No.	Date	Notes	TOC Elevation (ft-MSL)	Depth to Water (feet)	Measured SPH Thickness (feet)	Calc. GW Elev. (ft-MSL)	GRO (µg/L)	B (µg/L)	T (µg/L)	E (µg/L)	X (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Ethanol (µg/L)	Comments
Trip Blank	08/24/04		-	-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/16/04			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/08/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/03/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/03/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/02/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/01/05			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	01/31/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	05/02/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/01/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	11/07/06			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	02/13/07			-	-	-	<100	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<2.0	<2.0	<2.0	<500	
	05/01/07			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	
	08/07/07			-	-	-	<100	<1.0	<1.0	<1.0	<1.0	<1.0	<25	<2.0	<2.0	<2.0	<500	
	08/07/07			-	-	-	<50	<2.0	<2.0	<2.0	<4.0	<5.0	<50	<5.0	<5.0	<5.0	<150	

TABLE 2
Summary of Groundwater Analytical & Elevation Results
ARCO Station No. 5110
5731 East Firestone Blvd., South Gate, California

Notes:

GRO = Gasoline range organics

B = Benzene

T = Toluene

E = Ethylbenzene

X = Total xylenes

MTBE = Methyl tert-butyl ether

TBA = Tert-butyl alcohol

DIPE = Di-isopropyl ether

ETBE = Ethyl tert-butyl ether

TAME = Tert-amyl methyl ether

SPH = Separate phase hydrocarbons

TOC = Top of casing (surveyed)

Calc. GW Elev. = Calculated groundwater elevation = TOC - Depth to Water + 0.75*(Measured SPH Thickness); assuming a specific gravity of 0.75 for SPH

ft-MSL = feet above mean sea level

µg/L = Micrograms per liter

< = Analyte was not detected above the specified method reporting limit

- = Not measured or analyzed

J = Estimated value (less than the method reporting limit and greater than or equal to the method detection limit)

Refer to the reports in which data was first presented for more information on historical data.

GRO analyzed by EPA Method 8015 Modified. The carbon chain range used for analysis since 2002 Quarter 3 is C4-C12.

BTEX and oxygenates analyzed by EPA Method 8260B since 2002 Quarter 3.

ABN = Well abandoned; no sampling performed

DUP = Duplicate sample

INA = Well inaccessible; not sampled

MD = Sampling & gauging performed over multiple days during this event.

TABLE 3
WELL CONSTRUCTION DETAILS
ARCO STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CALIFORNIA

Well Number	Well Installation Date	Well Destruction Date	Casing Diameter (in)	Casing Slot Size (in)	Total Depth (ft bgs)	Screened Intervals (ft bgs)
MW-19	9/20/1989	-	4	0.020	70.3	45-70
MW-20	9/20/1989	-	4	0.020	69.0	44-69
D-1	6/21/1990	1/24/2002	4	0.020	72.0	7-72
D-2	6/22/1990	1/25/2002	4	0.020	46.9	6.9-46.9
D-3	6/22/1990	-	4	0.020	47.3	7-47
VEW-1	4/6/1995	1/24/2002	2	0.040	50.0	15-25
			2	0.040		30-50
VEW-2	4/7/1995	-	2	0.040	54.0	4-7
			2	0.040		12-29
			2	0.040		34-54
VEW-3	4/8/1995	1/24/2002	2	0.040	50.0	5-11
			2	0.040		15-25
			2	0.040		30-50
VEW-4	4/9/1995	1/25/2002	2	0.040	50.0	5-10
			2	0.040		15-25
			2	0.040		30-50
MW-A1	1998	-	2	0.020	61.4	NA
MW-A2	1998	-	2	0.020	56.6	NA
MW-A3	12/1/1999	-	4	0.020	65.0	35-65
MW-A4	12/1/1999	-	4	0.020	65.0	35-65
MW-A5	10/21/2001	-	4	0.020	65.0	30-65
MW-A6	10/30/2001	-	4	0.020	65.0	30-65
MW-A7	4/16/2002	-	2	0.020	65.0	10-30
			4	0.020		35-65
MW-A8	10/12/2005	-	2	0.020	94.0	43-63
			2	0.020		74-94
AS/SVE-1	9/30/2003	-	2	0.020	70.0	8-28
			2	0.020		35-55
			1	0.020		64-66
AS/SVE-2	10/2/2003	-	2	0.020	70.0	7-27
			2	0.020		35-55
			1	0.020		63-65
AS/SVE-3	10/4/2003	-	2	0.020	70.0	8-28
			2	0.020		35-55
			1	0.020		66-68
AS/SVE-4	9/30/2003	-	2	0.020	70.0	7-27
			2	0.020		34-54
			1	0.020		60-62
AS/SVE-5	9/29/2003	-	2	0.020	70.0	7-27
			2	0.020		35-55
			1	0.020		64-66

Notes:

-- In Use

NA- Not Available

TABLE 4
SUMMARY OF WELLS IDENTIFIED WITHIN A ONE-MILE RADIUS
ARCO STATION NO. 5110
SOUTHGATE, CALIFORNIA

State Well ID No.	Well ID No.	Usage	Well Operator	Status	Well Location	Distance/Direction From Site (approximate - ft)	Total Depth (ft bgs)	Perforation Intervals (ft bgs)	Well Casing Diam.	Date Last Gauged	Depth to Water (ft bgs)
--	"Fire Well"	Abandoned	ARCO Vinvale Terminal	Destroyed	181 f S of RR tracks 400 ft E of LA River 100 ft E of Long Beach Fwy	2,000 ft NW	575	--	12	--	--
03S/12W-05D02	1535H	--	City of South Gate	--	160 ft E of Garfield Ave 175 ft N of Southern Ave	1,700 ft S	222	--	6"	4/3/2003	57.2
02S/12W-31Q02	SG-25	Public Supply	City of South Gate	Active	East of Los Angeles Rver and west of Long Beach Freeway	1,800 ft SW	1331	280-350 360-380 400-550	16"	--	90.0
03S/12W-06D05	SLY	Industrial	Lunday-Thagard Oil Company	--	0.1 NW of intersection of Southern Avenue and Garfield	1,800 ft SW	--	--	--	--	--
03S/12W-05C06	NEW1	Public Supply	Rockview Dairies	--	Luxor St & Mitta Ave	1,900 ft SE	--	--	--	--	--
02S/12W-31Q03	SG-24	Public Supply	City of South Gate	Active	East of Los Angeles Rver and west of Long Beach Freeway	1,900 ft SW	1266	310-390 434-560 570-630	16"	--	87
02S/12W-31Q01	1525G	Public Supply	City of South Gate	--	Southern Ave & Rayo Ave	3,400 ft SW	--	--	--	4/15/2003	137.0
02S/12W-31H02	1524E	Observation	LA Flood Control District	--	West of the Los Angeles River & south of Fostoria St	3,400 ft NW	220	195-205	--	3/19/1990	72.8
02S/12W-31Q02	1525H	--	City of South Gate	--	Southern Ave & Burtis St	3,400 ft SW	--	--	--	4/15/2003	104.0
03S/12W-06B03	1525D/SG-23	Public Supply	City of South Gate	Active	150 ft S of Southern Ave 30 ft W of Salt Lake Ave	3,800 ft SW	856	530-624 662-682 772-789	18"	5/15/2007	107.0
02S/12W-33M01	1544G	Public Supply	Downey Water District	Active	Pellet St & Riverson Ave	4,200 ft NE	454	378-415 426-431	16"	5/15/2007	85.0
03S/12W-05M01	1536F	--	City of South Gate	--	0.5 Mi N of Imperial 150-200 ft E of Garfield S. of Gate Lee Circle	4,300 ft S	578	50-75 495-595	16"	10/15/2002	77.9
02S/12W-03H03	1524F	--	So. Cal. Water Company	--	Wilcox Ave & Santa Ana St	4,800 ft NW	--	--	--	11/28/2000	98.0
02S/12W-31M02	SG-7/ 1514A	Public Supply	City of South Gate	Active	300 feet west of Mason St & Nevill Ave	5,100 ft W	883	500-600	16"	5/15/2007	97
02S/12W-29P06	1533A	Public Supply	Private	--	Jaboneria Rd & Priory St	5,300 ft N	--	--	--	12/20/1989	89.4

TABLE 4
SUMMARY OF WELLS IDENTIFIED WITHIN A ONE-MILE RADIUS
ARCO STATION NO. 5110
SOUTHGATE, CALIFORNIA

State Well ID No.	Well ID No.	Usage	Well Operator	Status	Well Location	Distance/Direction From Site (approximate - ft)	Total Depth (ft bgs)	Perforation Intervals (ft bgs)	Well Casing Diam.	Date Last Gauged	Depth to Water (ft bgs)
02S/12W-29M05	1533M	Public Supply	So. Cal. Water Company	--	100 ft S of Priory St 360 ft W of Eastern Ave	5,300 ft N	650	376-368 380-400 422-425 561-581	16"	10/31/2002	253.0
03S/12W-05A01	Well 20	Public Supply	Downey Water District	--	--	3,800 ft SE	--	--	--	--	--
02S/12W-31B03	Hoffman Well No. 2	Public Supply	So. Cal. Water Company	--	--	4,600 ft NW	--	--	--	--	--
02S/12W28N03	1543F	Public Supply	So. Cal. Water Company	--	40 ft S of Clara St 400 ft E of Perry Rd Opposite 6447 Clara St	>1 mile NE	352	--	12"	4/28/2003	92.3
02S/12W-33P02	1555H	Public Supply	City of South Gate	--	Firestone Blvd & Old River School Road	>1 mile E	160	--	8"	5/23/2003	59.2
03S/12W-06D04	1515L	Public Supply	City of South Gate	Active	1200 ft N of Tweedy Blvd 150 ft W of Walnut	>1 mile W	815	610-620 626-666 678-746	18"	5/15/2007	106.0
03S/12W-06D02	1515J	Public Supply	City of South Gate	Active	325 ft W of Pinehurst Ave 850 ft N of Tweedy Blvd.	>1 mile W	813	615-745 767-775	18"	5/15/2007	106
03S/12W-04D02	1555J	Public Supply	Downey Water District	Active	0.22 Mi. W of Rives Ave 0.2 Mi E of Old River Rd 100 ft South of Burns Ave	>1 mile E	674	375-412 612-620	16	5/31/2007	82
02S/12W-31H01	1534A	--	Private	--	175 ft N of Southern Pacific RR 450 ft W of LA River	3400 ft NW	875	--	12	9/30/1977	119
02S/12W-31L01	1524B	--	--	--	--	4360 ft W-NW	566	--	16	12/4/1967	--
03S/12W-06K01	1526D	--	Private	--	1500 ft E of Wright Rd 400 ft S of Michigan Ave	5280 ft SW	1054	--	--	2/10/1988	51.9
03S/12W-05J01	1546	--	Private	--	200 ft S of Stewart and Gray Rd 1100 ft E of Old River Rd	5280 ft SE	166	--	12	--	--
03S/12W-05C08	--	Industrial	Private	--	7011 Stewart and Gray Rd	2280 ft SE	600	--	16	7/10/1997	83
03S/12W-05D03	--	Industrial	Private	--	5625 Southern Ave	1960 ft SW	214	--	12	7/1/1963	84

Legend:
-- - Information not available at the time of this report or not available to the public

TABLE 5
SUMMARY OF MONTHLY EFR ACTIVITIES (DISCONTINUED)
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CALIFORNIA

WELL NUMBER	DATE OF PURGE	PURGE VOLUME (gallons)
D-1	07/19/99	850.00
	08/13/99	640.00
	09/08/99	750.00
	10/11/99	900.00
	11/08/99	300.00
	12/06/99	900.00
	01/03/00	560.00
	02/02/00	500.00
	03/06/00	800.00
	04/03/00	600.00
	05/01/00	490.00
	06/02/00	260.00
	07/25/00	580.00
	08/14/00	330.00
	09/14/00	600.00
	10/17/00	300.00
	11/13/00	450.00
	12/14/00	600.00
	01/11/01	500.00
	02/20/01	350.00
	03/22/01	600.00
	04/26/01	510.00
	05/24/01	1,000.00
	06/13/01	550.00
	07/19/01	370.00
	08/24/01	400.00
	09/13/01	165.00
	10/26/01	180.00
	11/21/01	400.00
	12/26/01	337.00
	01/17/02	165.00
	01/25/02	ABN

TABLE 5
SUMMARY OF MONTHLY EFR ACTIVITIES (DISCONTINUED)
ATLANTIC RICHFIELD COMPANY STATION NO. 5110
5731 EAST FIRESTONE BOULEVARD
SOUTH GATE, CALIFORNIA

WELL NUMBER	DATE OF PURGE	PURGE VOLUME (gallons)
MW-20	09/13/01	165.00
	10/26/01	1.00
	11/21/01	300.00
	12/26/01	300.00
	01/17/02	220.00
	DISCONTINUED	DISCONTINUED
MW-A5	01/17/02	220.00
	DISCONTINUED	DISCONTINUED
MW-A6	01/17/02	248.00
	DISCONTINUED	DISCONTINUED
Total Gallons Removed		17,391.00

TABLE 6 - SVE OPERATION REPORT

<p align="center">Atlantic Richfield Company Station No. 5110 5731 East Firestone Boulevard South Gate, CA VES SUMMARY OF THE OPERATING PERIOD Third Quarter, 2007</p>	
Atlantic Richfield Company Engineer:	Darrell Fah
Consultant:	SECOR International Incorporated
Lead Agency:	SCAQMD
Reporting Period:	June 1, 2007 through August 31, 2007
Equipment Inventory:	
Operating Mode:	Vapor Phase Carbon Adsorption
SCAQMD Permit #:	F77737 (new permit in processing with SCAQMD)
Influent GRO Concentration at system start up:	Prior SVE System startup 4/7/04
Field observed concentration:	>9,999 ppmv
Laboratory reported concentration:	8,400 ppmv
Influent Benzene Concentration at system start up:	Prior SVE System startup 4/7/04
Field observed concentration:	not measured
Laboratory reported concentration:	92 ppmv
Influent GRO Concentration at end of period:	
Field observed concentration:	NA
Laboratory reported concentration:	NA
Influent Benzene Concentration at end of period:	
Field observed concentration:	not measured
Laboratory reported concentration:	NA
Flow Rate at end of period:	NA
Hydrocarbons Removed This Period:	0 lb
Utility usage:	
Electricity:	0 kWh
Natural Gas:	0 Therms
Percent up time during this period:	0% (Vapor Extraction)
Hours up time during this period:	0 hours
Cumulative Hours up time:	12,369 hours
Cumulative Hours up time (prior to 5/08/07):	12,083 hours
Cumulative Hours up time (since to 5/08/07):	286 hours
Number of auto shut downs during this period:	0 (Vapor Extraction)
<p>Notes: NA = Not Available GRO = Gasoline Range Organics (C₄ - C₁₂)</p>	

TABLE 7 - SUMMARY OF SVE OPERATION DATA

Atlantic Richfield Company Station No. 5110 5731 East Firestone Boulevard South Gate, CA VES OPERATING REPORT Third Quarter, 2007		
INLET VAPOR SAMPLE		
Current Well Source:	SVE-1S/D through SVE-5S/D, MW-A7S/D	
GRO Concentration at end of period:	NA	
GRO Concentration at end of last period:	43 ppmV	(5/08/07)
GRO Permit Concentration for 7 day monitoring frequency:	97 ppmV	(as Hexane)
GRO Permit Requirement Concentration:	680 ppmV	(as Hexane)
Initial GRO Concentration of Prior SVE System:	8,400 ppmV	(initial startup 4/7/04)
Benzene Concentration at end of period:	NA	
Benzene Concentration at end of last period:	0.28 ppmV	(5/08/07)
Initial Benzene Concentration of Prior SVE System:	92 ppmV	(initial startup 4/7/04)
MID VAPOR SAMPLE		
GRO Concentration at end of period:	NA	
GRO Concentration at end of last period:	<1.0 ppmV	(5/08/07)
Benzene Concentration at end of period:	NA	
Benzene Concentration at end of last period:	<0.002 ppmV	(5/08/07)
EFFLUENT VAPOR SAMPLE		
GRO Concentration at end of period:	NA	
GRO Permit Requirement Concentration:	2.5 ppmV	(as Hexane)
Percent (%) TPH Conversion:	NA %	
GRO Permit Requirement % Adsorption Efficiency:	90.0 %	
Benzene Concentration at end of period:	NA	
Benzene Permit Requirement Concentration:	0.08 ppmV	
MTBE Concentration at end of period:	NA	
MTBE Permit Requirement Concentration:	0.80 ppmV	
Cumulative Hydrocarbons removed:	50,303 lb	
Cumulative Hydrocarbons removed (prior to 5/08/07):	50,283 lb	
Cumulative Hydrocarbons removed (since to 5/08/07):	20 lb	
Avg. Inlet Temperature:	NA deg. F	<145 deg. F
Avg. Outlet Temperature:	NA deg. F	
Avg. Source Flow:	NA scfm	<250 scfm
Avg. Source Vacuum:	NA in. H ₂ O	
Notes:	Average values do not include down time. NA = Not Applicable NM = Not Measured GRO = Gasoline Range Organics (C ₄ - C ₁₂)	

TABLE 8
Summary of Process Vapor Sampling Results
Atlantic Richfield Company Station No. 5110
5731 East Firestone Boulevard
South Gate, CA

Sample Date	Sample ID	GRO (ppmV)	Benzene (ppmV)	Ethylbenzene (ppmV)	Toluene (ppmV)	Total Xylenes (ppmV)	DIPE (ppmV)	ETBE (ppmV)	MTBE (ppmV)	TAME (ppmV)	TBA (ppmV)	Ethanol (ppmV)	CO ₂ (%)	CO (%)	CH ₄ (%)	N ₂ (%)	O ₂ (%)
EPA Method:		8015 Mod	8260B										ASTM D1946-90				
4/7/2004	Influent	8,400	92	38	250	170	<24	<27	<28	<24	<330	--	10	<0.10	0.32	83	6.6
	Infl. w/ dil.	1,900	22	19	68	96	<6.0	<6.6	7.1	<6.0	<82	--	1.7	<0.10	<0.10	78	21
	Effluent	3.0	0.19	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	2.5	<0.10	<0.10	78	19
4/13/2004	Effluent	3.0	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
4/21/2004	Influent	6,200	81	52	250	220	<12	<13	27	<12	<160	--	5.5	<0.10	<0.10	80	14
	Infl. w/ dil.	860	10	9.9	47	51	<2.4	<2.7	4.5	<2.4	<33	--	0.75	<0.10	<0.10	78	21
	Effluent	3.1	<0.061	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	1.8	<0.10	<0.10	80	18
4/27/2004	Influent	7,000	40	24	180	77	<12	<13	15	<12	<160	--	5.3	<0.10	0.13	80	15
	Infl. w/ dil.	2,400	21	28	89	120	<2.4	<2.7	8.9	<2.4	<33	--	1.8	<0.10	<0.10	78	20
	Effluent	3.6	<0.061	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	2.5	<0.10	<0.10	79	18
5/5/2004	Influent	5,900	54	72	290	300	<12	<13	17	<12	<160	--	3.1	<0.10	<0.10	79	18
	Infl. w/ dil.	1,900	13	18	68	80	<2.4	<2.7	4.2	<2.4	<33	--	1.0	<0.10	<0.10	79	20
	Effluent	<2.4	<0.060	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	2.1	<0.10	<0.10	80	18
5/12/2004	Influent	4,300	20	15	78	61	<12	<13	7.6	<12	<160	--	2.7	<0.10	<0.10	79	18
	Infl. w/ dil.	1,500	9.7	14	48	68	<2.4	<2.7	2.9	<2.4	<33	--	1.0	<0.10	<0.10	79	20
	Effluent	<2.4	0.093	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	2.1	<0.10	<0.10	79	19
5/19/2004	Influent	3,400	30	39	150	180	<12	<13	<14	<12	<160	--	2.3	<0.10	<0.10	79	19
	Infl. w/ dil.	1,600	13	23	70	120	<4.8	<5.3	<5.6	<4.8	<66	--	0.92	<0.10	<0.10	79	20
	Effluent	<2.4	0.096	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	2.0	<0.10	<0.10	80	19
6/2/2004	Influent	3,700	28	44	130	210	<2.4	<2.7	6.6	<2.4	<33	--	2.0	<0.10	<0.10	79	19
	Infl. w/ dil.	1,500	18	36	79	190	<4.8	<5.3	<5.6	<4.8	<66	--	1.2	<0.10	<0.10	79	20
	Effluent	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	2.0	<0.10	<0.10	79	19
7/7/2004	Influent	1,600	17	25	96	130	<2.4	<2.7	2.9	<2.4	<33	--	--	--	--	--	--
	Infl. w/ dil.	1,400	12	22	70	120	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Effluent	<2.4	<1.2	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
8/4/2004	Influent	1,200	8.3	16	70	86	<4.8	<5.3	<5.6	<4.8	<66	--	1.2	<0.10	<0.10	79	20
	Infl. w/ dil.	1,200	6.4	15	55	88	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Effluent	<2.4	0.082	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
9/9/2004	Influent	900	4.1	13	46	72	<2.4	<2.7	<2.8	<2.4	<33	--	1.3	<0.10	<0.10	79	20
	Effluent	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
9/23/2004	Influent	3,500	10	15	14	75	<2.4	<2.7	7.1	<2.4	<33	--	6.9	<0.10	<0.10	86	7.4
10/7/2004	Influent	1,500	2.1	3.0	9.7	24	<2.4	<2.7	<2.8	<2.4	<33	--	4.7	<0.10	<0.10	83	12
	Effluent	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	3.2	<0.10	<0.10	80	16

TABLE 8
Summary of Process Vapor Sampling Results
Atlantic Richfield Company Station No. 5110
5731 East Firestone Boulevard
South Gate, CA

Sample Date	Sample ID	GRO (ppmV)	Benzene (ppmV)	Ethylbenzene (ppmV)	Toluene (ppmV)	Total Xylenes (ppmV)	DIPE (ppmV)	ETBE (ppmV)	MTBE (ppmV)	TAME (ppmV)	TBA (ppmV)	Ethanol (ppmV)	CO ₂ (%)	CO (%)	CH ₄ (%)	N ₂ (%)	O ₂ (%)
11/4/2004	Influent	1,800	<1.2	1.6	6.2	13	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Effluent	<2.4	0.062	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
EPA Method:		TO-3	TO-14A										ASTM D1946				
12/16/2004	Influent	1,700	0.98	2.0	7.0	17	<0.4	<0.4	<0.4	<0.4	<2.0	--	4.4	<0.001	0.23	83	15
	Effluent	2.2	0.029	0.015	0.033	0.12	<0.002	<0.002	<0.002	<0.002	<0.01	--	2.9	0.017	0.0074	82	18
1/5/2005	Influent	1,800	0.62	1.2	3.8	10	<0.050	<0.050	0.23	<0.050	<0.25	--	3.9	<0.001	0.26	79	15
	Effluent	1.3	0.040	0.0040	0.020	0.020	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	--	2.7	0.018	0.0081	79	17
2/2/2005	Influent	1,600	0.54	0.72	2.8	6.6	<0.25	<0.25	<0.25	<0.25	<1.2	--	3.5	<0.001	0.20	80	16
	Effluent	<1.0	0.017	<0.0020	0.0083	0.010	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	--	2.5	0.012	0.0038	80	18
3/2/2005	Influent	1,000	0.81	2.8	8.3	23	<0.10	<0.10	0.27	<0.10	<0.5	--	2.5	<0.001	0.10	79	18
	Effluent	2.0	0.024	0.0077	0.018	0.070	<0.0020	<0.0020	<0.0020	<0.0020	<0.010	--	1.8	0.017	0.0097	79	19
4/6/2005	Influent	170	0.69	2.7	8.8	19	<0.67	<0.67	0.76	<0.67	0.14 ^J	--	1	<0.001	0.015	79	19
	Effluent	8.4	0.0088	0.0051	0.018	0.039	<0.0020	<0.0020	0.0011 ^J	<0.0020	0.0037 ^J	--	0.97	0.00031 ^J	0.39	78	20
EPA Method:		8015 Mod	8260B										ASTM D1946-90				
10/5/2005	Influent	590	3.1	4.7	17	31	<2.4	<2.7	5.1	<2.4	<33	--	6.3	<0.10	0.05 ^J	84	9.3
	Effluent	14	<1.2	<0.92	<1.1	0.38 ^J	<2.4	<2.7	<2.8	<2.4	<33	--	0.09 ^J	<0.10	<0.10	78	22
EPA Method:		TO-3	TO-14A										ASTM D1946				
11/8/2005	Influent	1,300	0.55	1.6	5.5	14	<0.10	<0.10	<0.10	<0.10	<0.5	--	4.5	<0.001	0.13	82	14
	Effluent	57	<0.020	<0.020	0.0095 ^J	<0.020	<0.020	<0.020	<0.020	<0.020	<0.10	--	1.2	<0.001	0.44	79	20
12/6/2005	Influent	1,100	0.52	1.8	5.2	16	<0.05	<0.05	0.31	<0.05	0.13 ^J	--	3.5	<0.001	0.14	79	15
	Effluent	57	<0.010	<0.010	0.0099 ^J	<0.010	<0.010	<0.010	<0.010	<0.010	0.0069 ^J	--	0.95	0.0004 ^J	0.34	77	20
1/3/2006	Influent	220	0.23	1.1	3.1	9.8	<0.05	<0.05	0.13	<0.05	<0.25	--	2.0	<0.001	0.02	80	19
	Effluent	6.4	0.015	0.009	0.019	0.089	<0.002	<0.002	<0.002	<0.002	0.0050 ^J	--	0.86	<0.001	0.39	79	20
1/17/2006	Influent	770	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Effluent	61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/16/2006	Influent	580	0.53	1.2	4.2	9.2	--	--	--	--	--	--	4.2	--	0.065	80	14
	Effluent	4.8	0.038	0.011	0.074	0.070	--	--	--	--	--	--	2.2	--	0.019	76	17
6/6/2006	Influent	2,000	0.81	1.0	3.6	8.1	--	--	--	--	--	--	3.0	--	0.20	80	17
	Effluent	4.9	0.040	0.0074	0.044	0.043	--	--	--	--	--	--	2.4	--	0.013	80	18
1/17/2006	Influent	770	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Effluent	61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/16/2006	Influent	580	0.53	1.2	4.2	9.2	--	--	--	--	--	--	4.2	--	0.065	80	14
	Effluent	4.8	0.038	0.011	0.074	0.070	--	--	--	--	--	--	2.2	--	0.019	76	17
6/6/2006	Influent	2,000	0.81	1.0	3.6	8.1	--	--	--	--	--	--	3.0	--	0.20	80	17
	Effluent	4.9	0.040	0.0074	0.044	0.043	--	--	--	--	--	--	2.4	--	0.013	80	18

TABLE 8
Summary of Process Vapor Sampling Results
Atlantic Richfield Company Station No. 5110
5731 East Firestone Boulevard
South Gate, CA

Sample Date	Sample ID	GRO (ppmV)	Benzene (ppmV)	Ethylbenzene (ppmV)	Toluene (ppmV)	Total Xylenes (ppmV)	DIPE (ppmV)	ETBE (ppmV)	MTBE (ppmV)	TAME (ppmV)	TBA (ppmV)	Ethanol (ppmV)	CO ₂ (%)	CO (%)	CH ₄ (%)	N ₂ (%)	O ₂ (%)
EPA Method:		8015 Mod	8260B										ASTM D1946-90				
9/19/2006	Influent w/o Dil	49	<1.2	<0.92	<1.1	2.0	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Influent w/ Dil	16	<1.2	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Effluent	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
10/3/2006	Effluent	63.0	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
10/17/2006	Influent w/o Dil	140	<1.2	1.0	2.2	8.2	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Influent w/ Dil	110	<1.2	<0.92	1.3	6.0	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Effluent	22.0	0.27	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
11/8/2006	Influent w/o Dil	1,500	<1.2	<0.92	2.1	8.4	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Influent w/ Dil	42	<1.2	<0.92	1.3	5.1	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
	Effluent	87	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	--	--	--	--	--	--
EPA Method:		TO-3	TO-14A										ASTM D1946				
5/8/2007	VP-INF	43	0.28	0.21	0.99	2.9	<0.010	<0.010	0.19	<0.010	<0.050	<0.20	--	--	--	--	--
	VP-MID	<1.0	<0.002	<0.002	0.0053	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.040	--	--	--	--	--
	VP-EFF	<1.0	<0.002	<0.002	0.0054	<0.002	<0.002	<0.002	<0.002	<0.002	<0.010	<0.040	--	--	--	--	--

Notes:

GRO = Gasoline Range Organics (C₄ - C₁₂)

ppmV = Parts per million on a volume basis

-- = Not sampled/Not analyzed

DIPE = Di-Isopropyl ether

ETBE = Ethyl tert-butyl ether

MTBE = Methyl Tertiary Butyl Ether

TAME = Tertiary-amyl methylether

TBA = Tert-butyl alcohol

CO₂ = Carbon dioxide

CO = Carbon monoxide

CH₄ = Methane

N₂ = Nitrogen

O₂ = Oxygen

(%) = Percentage of air volume

Effluent samples from 4/11/04 to 6/02/04, 8/04/04 to 11/04/04, and 9/19/06 to 11/08/06 were analyzed for Benzene using EPA Method 410A Mod.

TABLE 9
Summary of Individual Well Vapor Sample Analytical Results
Atlantic Richfield Company Station No. 5110
5731 East Firestone Boulevard
South Gate, CA

Sample Date	Sample ID	GRO (ppmV)	Benzene (ppmV)	Ethylbenzene (ppmV)	Toluene (ppmV)	Total Xylenes (ppmV)	DIPE (ppmV)	ETBE (ppmV)	MTBE (ppmV)	TAME (ppmV)	TBA (ppmV)	CO ₂ (%)	Methane (%)	O ₂ (%)
EPA Method:		8015 Mod	8260B											
4/7/2004	SVE-1 Shallow	11000	120	100	320	470	<12	<13	23	<12	<160	11	0	<5.5
4/7/2004	SVE-1 Deep	10000	100	100	280	510	<12	<13	43	<12	<160	11	1	<5.5
4/7/2004	SVE-2 Shallow	14000	150	88	360	470	<12	<13	72	<12	<160	12	1	<5.5
4/7/2004	SVE-2 Deep	14000	130	92	350	500	<12	<13	67	<12	<160	12	1	<5.5
4/7/2004	SVE-3 Shallow	14000	270	130	420	570	<24	<27	<28	<24	<330	12	1	<5.5
4/7/2004	SVE-3 Deep	13000	250	130	440	610	<24	<27	46	<24	<330	12	1	<5.5
4/7/2004	SVE-4 Shallow	5900	38	45	190	210	<12	<13	<14	<12	<160	10	0	8
4/7/2004	SVE-4 Deep	8500	82	46	340	200	<24	<27	<28	<24	<330	12	0	<5.5
4/7/2004	SVE-5 Shallow	5100	11	15	3	31	<2.4	<2.7	<2.8	<2.4	<33	7	0	9
4/7/2004	SVE-5 Deep	13000	15	10	3	22	<6.0	<6.6	<7.0	<6.0	<82	6	1	9
4/7/2004	MW-A7	5200	25	31	120	230	<6.0	<6.6	13	<6.0	<82	0	<0.1	23

TABLE 9
Summary of Individual Well Vapor Sample Analytical Results
Atlantic Richfield Company Station No. 5110
5731 East Firestone Boulevard
South Gate, CA

Sample Date	Sample ID	GRO (ppmV)	Benzene (ppmV)	Ethylbenzene (ppmV)	Toluene (ppmV)	Total Xylenes (ppmV)	DIPE (ppmV)	ETBE (ppmV)	MTBE (ppmV)	TAME (ppmV)	TBA (ppmV)	CO ₂ (%)	Methane (%)	O ₂ (%)
EPA Method:		8015 Mod	410A	8260B										
10/31/2006	SVE-1 Shallow	20	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-1 Deep	4.3	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-2 Shallow	15	<0.059	<0.92	<1.1	4.5	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-2 Deep	950	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-3 Shallow	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-3 Deep	160	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-4 Shallow	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-4 Deep	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-5 Shallow	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	SVE-5 Deep	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	MW-A7- S	<2.4	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-
10/31/2006	MW-A7- D	26	<0.059	<0.92	<1.1	<1.8	<2.4	<2.7	<2.8	<2.4	<33	-	-	-

Notes:

GRO = Gasoline Range Organics (C₄ - C₁₂)

ppmV = Parts per million on a volume basis

-- = Not sampled/Not analyzed

DIPE = Di-Isopropyl ether

ETBE = Ethyl tert-butyl ether

MTBE = Methyl Tertiary Butyl Ether

TAME = Tertiary-amyl methylether

TBA = Tert-butyl alcohol

CO₂ = Carbon dioxide

CO = Carbon monoxide

CH₄ = Methane

N₂ = Nitrogen

O₂ = Oxygen

(%) = Percentage of air volume

TABLE 10a
 INDIVIDUAL WELL - FIELD MONITORING DATA (SVE-1S Through SVE-3D)
 ARCO STATION NO. 5110
 5731 E. FIRESTONE BOULEVARD, SOUTH GATE, CA

Monitoring Date	SVE Well											
	SVE-1S (8 to 28)		SVE-1D (35 to 55)		SVE-2S (7 to 27)		SVE-2D (35 to 55)		SVE-3S (8 to 28)		SVE-3D (35 to 55)	
	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)
05/18/07	--	100	--	100	178	100	178	100	179	100	179	100
05/23/07	25.1	100	25.1	100	473	100	473	100	521	100	521	100

Notes:

-- Not measured

ppmv = parts per million on a volume basis as measured by FID or PID

(17 to 25) - Vapor Extraction Well Screen Interval

TABLE 10b
INDIVIDUAL WELL - FIELD MONITORING DATA (SVE-4S Through MW-A7D)
ARCO STATION NO. 5110
5731 E. FIRESTONE BOULEVARD, SOUTH GATE, CA

Monitoring Date	SVE Well											
	SVE-4S (7 to 27)		SVE-4D (34 to 54)		SVE-5S (7 to 27)		SVE-5D (35 to 55)		MW-A7S (10 to 30)		MW-A7D (35 to 65)	
	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)	VOC Conc. (ppmv)	Status Departure (% Open)
05/18/07	--	100	--	100	6.0	100	6.0	100	117	100	117	100
05/23/07	212	100	212	100	15.1	100	15.1	100	324	100	324	100

Notes:

-- Not measured

ppmv = parts per million on a volume basis as measured by FID or PID

(17 to 25) - Vapor Extraction Well Screen Interval

TABLE 11
INDIVIDUAL AIR SPARGE WELL MONITORING DATA
ARCO STATION NO. 5110
5731 E. FIRESTONE BOULEVARD, SOUTH GATE, CA

Monitoring Date	Air Sparge Well									
	AS-1		AS-2		AS-3		AS-4		AS-5	
	Flow (scfh)	Pressure (psi)	Flow (scfh)	Pressure (psi)	Flow (scfh)	Pressure (psi)	Flow (scfh)	Pressure (psi)	Flow (scfh)	Pressure (psi)
05/18/07	2.0	25	2.0	25	2.0	25	2.0	25	2.0	25
05/21/07	2.0	25	2.0	25	2.0	25	2.0	25	2.0	25
05/23/07	2.0	25	2.0	25	2.0	25	2.0	25	2.0	25
05/30/07	2.0	25	2.0	25	2.0	25	2.0	25	2.0	25

Notes:

-- = Not measured.

scfh = Standard cubic feet per hour

psi = Pounds per square inch

TABLE 12
SOIL VAPOR EXTRACTION DAILY OPERATION LOGS
ARCO STATION NO. 5110
5731 E. FIRESTONE BOULEVARD, SOUTH GATE, CA
SCAQMD PERMIT-TO-OPERATE NO. F77737

Date	Field Inlet Concentration (PPMV)	Field Midpoint Concentration (PPMV)	Field Outlet Concentration (PPMV)	GRO Destruction Efficiency (%)	Process Flow (SCFM)	Manifold Vacuum (Inches H2O)	Inlet Temperature (Degrees F)	Outlet Temperature (Degrees F)	Cumulative Hydrocarbons Removed * (LB)	Daily Hours On-Line	Cumulative Operating Hours
SVE system started under Site Specific South Coast AQMD Permit-to-Operate No. F77737											
05/01/07									50,283	0	12,083
05/02/07									50,283	0	12,083
05/03/07									50,283	0	12,083
05/04/07									50,283	0	12,083
05/05/07									50,283	0	12,083
05/06/07									50,283	0	12,083
05/07/07									50,283	0	12,083
05/08/07	98	0.0	0.0	98.8	120	20	78	85	50,283	1	12,084
05/09/07	Shut off system after collection of certified vapor samples.								50,283	0	12,084
05/10/07									50,283	0	12,084
05/11/07									50,283	0	12,084
05/12/07									50,283	0	12,084
05/13/07									50,283	0	12,084
05/14/07									50,283	0	12,084
05/15/07									50,283	0	12,084
05/16/07									50,283	0	12,084
05/17/07									50,283	0	12,084
05/18/07	104	1.2	0.0	98.8	120	20	75	90	50,284	14	12,098
05/19/07	104	1.2	0.0	98.8	120	20	75	90	50,286	24	12,122
05/20/07	104	1.2	0.0	98.8	120	20	75	90	50,288	24	12,146
05/21/07	155	1.0	0.0	98.8	120	20	74	92	50,289	24	12,170
05/22/07	155	1.0	0.0	98.8	120	20	74	92	50,291	24	12,194
05/23/07	281	0.0	0.0	98.8	120	20	68	89	50,293	24	12,218
05/24/07	281	0.0	0.0	98.8	120	20	68	89	50,294	24	12,242
05/25/07	281	0.0	0.0	98.8	120	20	68	89	50,296	24	12,266
05/26/07	281	0.0	0.0	98.8	120	20	68	89	50,298	24	12,290
05/27/07	281	0.0	0.0	98.8	120	20	68	89	50,299	24	12,314
05/28/07	281	0.0	0.0	98.8	120	20	68	89	50,301	24	12,338
05/29/07	281	0.0	0.0	98.8	120	20	68	89	50,303	24	12,362
05/30/07	50	25.0	1.0	98.8	120	20	69	95	50,303	7	12,369
05/31/07	Shut off system due to high vapor concentrations in influent and mid samples.								50,303	0	12,369
06/01/07									50,303	0	12,369
06/02/07									50,303	0	12,369
06/03/07									50,303	0	12,369
06/04/07									50,303	0	12,369
06/05/07									50,303	0	12,369
06/06/07									50,303	0	12,369
06/07/07									50,303	0	12,369
06/08/07									50,303	0	12,369
06/09/07									50,303	0	12,369
06/10/07									50,303	0	12,369
06/11/07									50,303	0	12,369
06/12/07									50,303	0	12,369
06/13/07									50,303	0	12,369
06/14/07									50,303	0	12,369
06/15/07									50,303	0	12,369
06/16/07									50,303	0	12,369
06/17/07									50,303	0	12,369
06/18/07									50,303	0	12,369
06/19/07									50,303	0	12,369
06/20/07									50,303	0	12,369
06/21/07									50,303	0	12,369
06/22/07									50,303	0	12,369
06/23/07									50,303	0	12,369
06/24/07									50,303	0	12,369
06/25/07									50,303	0	12,369
06/26/07									50,303	0	12,369
06/27/07									50,303	0	12,369
06/28/07									50,303	0	12,369
06/29/07									50,303	0	12,369
06/30/07									50,303	0	12,369
07/01/07									50,303	0	12,369
07/02/07									50,303	0	12,369
07/03/07									50,303	0	12,369
07/04/07									50,303	0	12,369
07/05/07	System down pending optimization.								50,303	0	12,369
07/06/07									50,303	0	12,369
07/07/07									50,303	0	12,369
07/08/07									50,303	0	12,369

TABLE 12
SOIL VAPOR EXTRACTION DAILY OPERATION LOGS
ARCO STATION NO. 5110
5731 E. FIRESTONE BOULEVARD, SOUTH GATE, CA
SCAQMD PERMIT-TO-OPERATE NO. F77737

Date	Field Inlet Concentration (PPMV)	Field Midpoint Concentration (PPMV)	Field Outlet Concentration (PPMV)	GRO Destruction Efficiency (%)	Process Flow (SCFM)	Manifold Vacuum (Inches H2O)	Inlet Temperature (Degrees F)	Outlet Temperature (Degrees F)	Cumulative Hydrocarbons Removed * (LB)	Daily Hours On-Line	Cumulative Operating Hours
07/09/07									50,303	0	12,369
07/10/07									50,303	0	12,369
07/11/07									50,303	0	12,369
07/12/07									50,303	0	12,369
07/13/07									50,303	0	12,369
07/14/07									50,303	0	12,369
07/15/07									50,303	0	12,369
07/16/07									50,303	0	12,369
07/17/07									50,303	0	12,369
07/18/07									50,303	0	12,369
07/19/07									50,303	0	12,369
07/20/07									50,303	0	12,369
07/21/07									50,303	0	12,369
07/22/07									50,303	0	12,369
07/23/07									50,303	0	12,369
07/24/07									50,303	0	12,369
07/25/07									50,303	0	12,369
07/26/07									50,303	0	12,369
07/27/07									50,303	0	12,369
07/28/07									50,303	0	12,369
07/29/07									50,303	0	12,369
07/30/07									50,303	0	12,369
07/31/07									50,303	0	12,369
08/01/07									50,303	0	12,369
08/02/07									50,303	0	12,369
08/03/07									50,303	0	12,369
08/04/07									50,303	0	12,369
08/05/07									50,303	0	12,369
08/06/07									50,303	0	12,369
08/07/07									50,303	0	12,369
08/08/07									50,303	0	12,369
08/09/07									50,303	0	12,369
08/10/07									50,303	0	12,369
08/11/07									50,303	0	12,369
08/12/07									50,303	0	12,369
08/13/07									50,303	0	12,369
08/14/07									50,303	0	12,369
08/15/07									50,303	0	12,369
08/16/07									50,303	0	12,369
08/17/07									50,303	0	12,369
08/18/07									50,303	0	12,369
08/19/07									50,303	0	12,369
08/20/07									50,303	0	12,369
08/21/07									50,303	0	12,369
08/22/07									50,303	0	12,369
08/23/07									50,303	0	12,369
08/24/07									50,303	0	12,369
08/25/07									50,303	0	12,369
08/26/07									50,303	0	12,369
08/27/07									50,303	0	12,369
08/28/07									50,303	0	12,369
08/29/07									50,303	0	12,369
08/30/07									50,303	0	12,369
08/31/07									50,303	0	12,369

Notes:

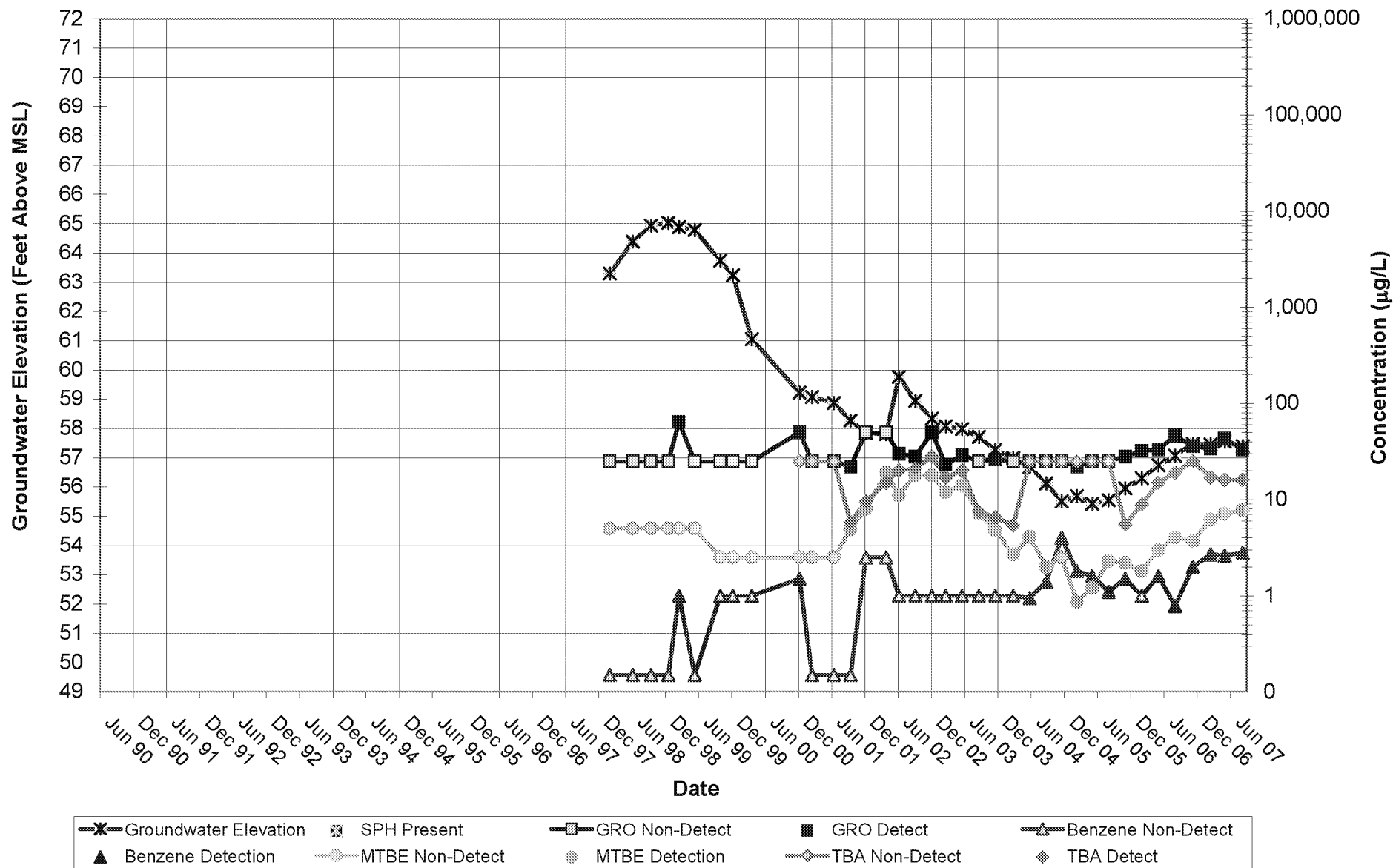
* Mass removal determined using laboratory analytical data (See Table 8)

NM - Not Measured

BOLD - Indicates technician-monitored event.

GRAPHS

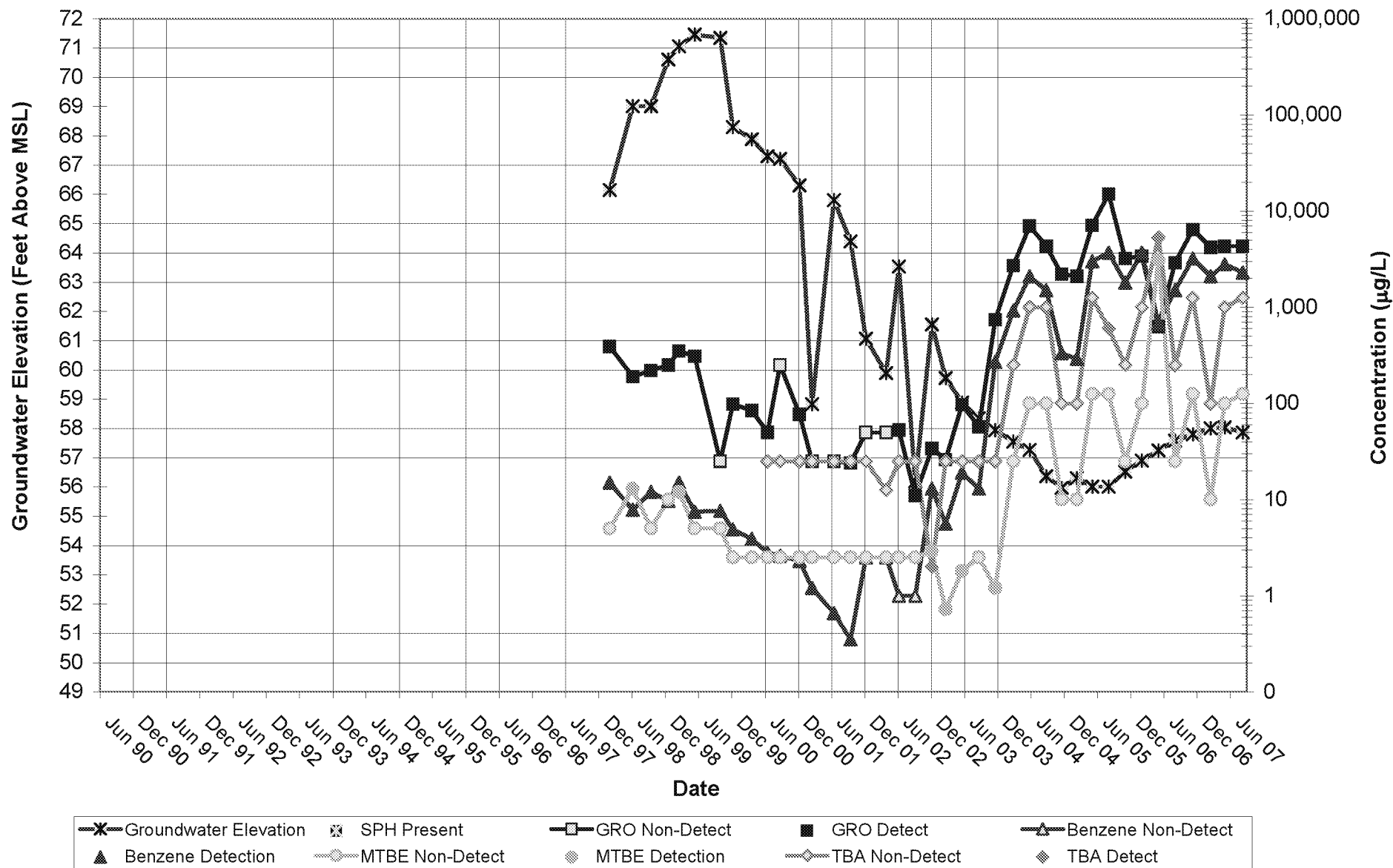
ARCO Station No. 5110
MW-A1 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

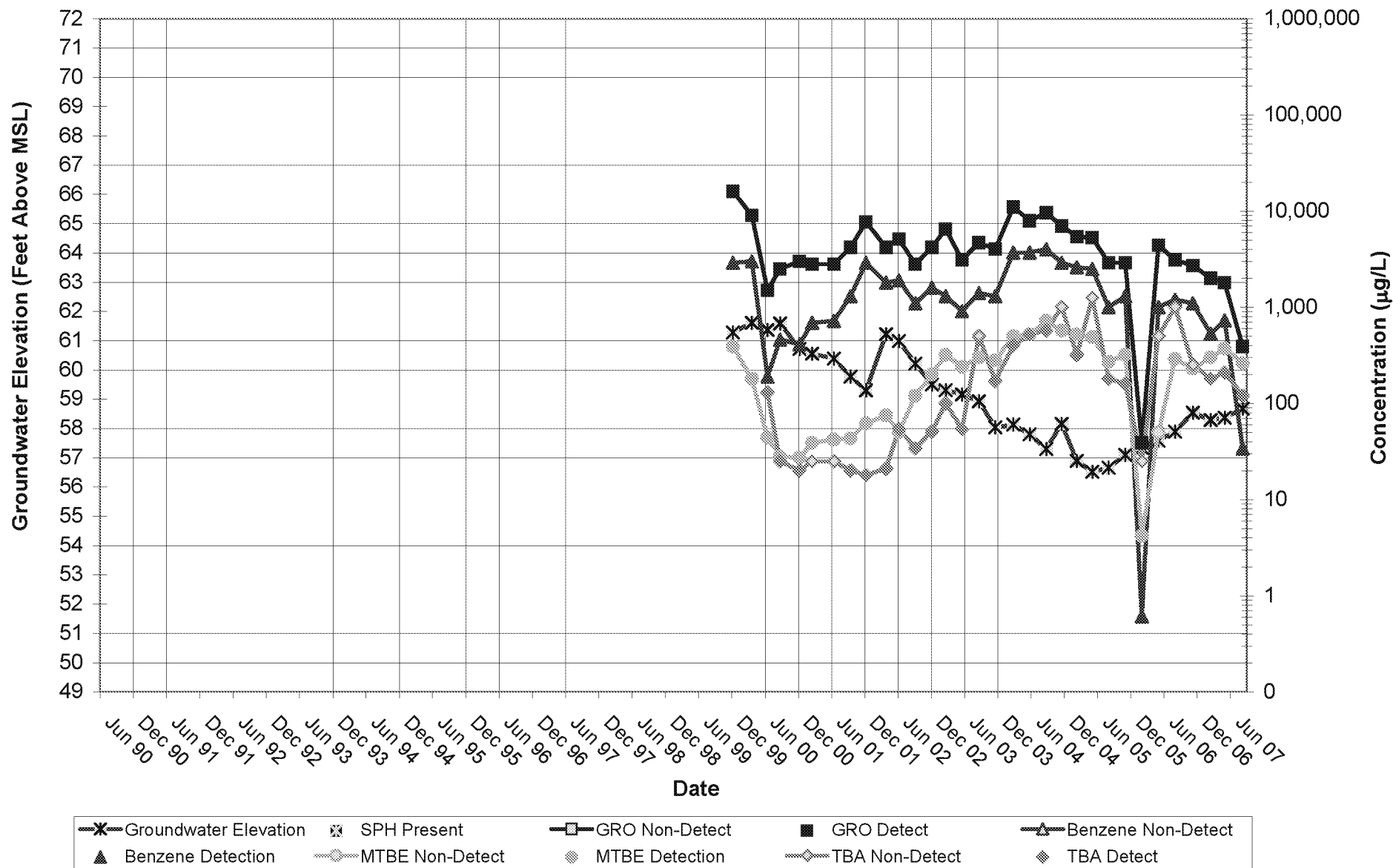
ARCO Station No. 5110
MW-A2 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

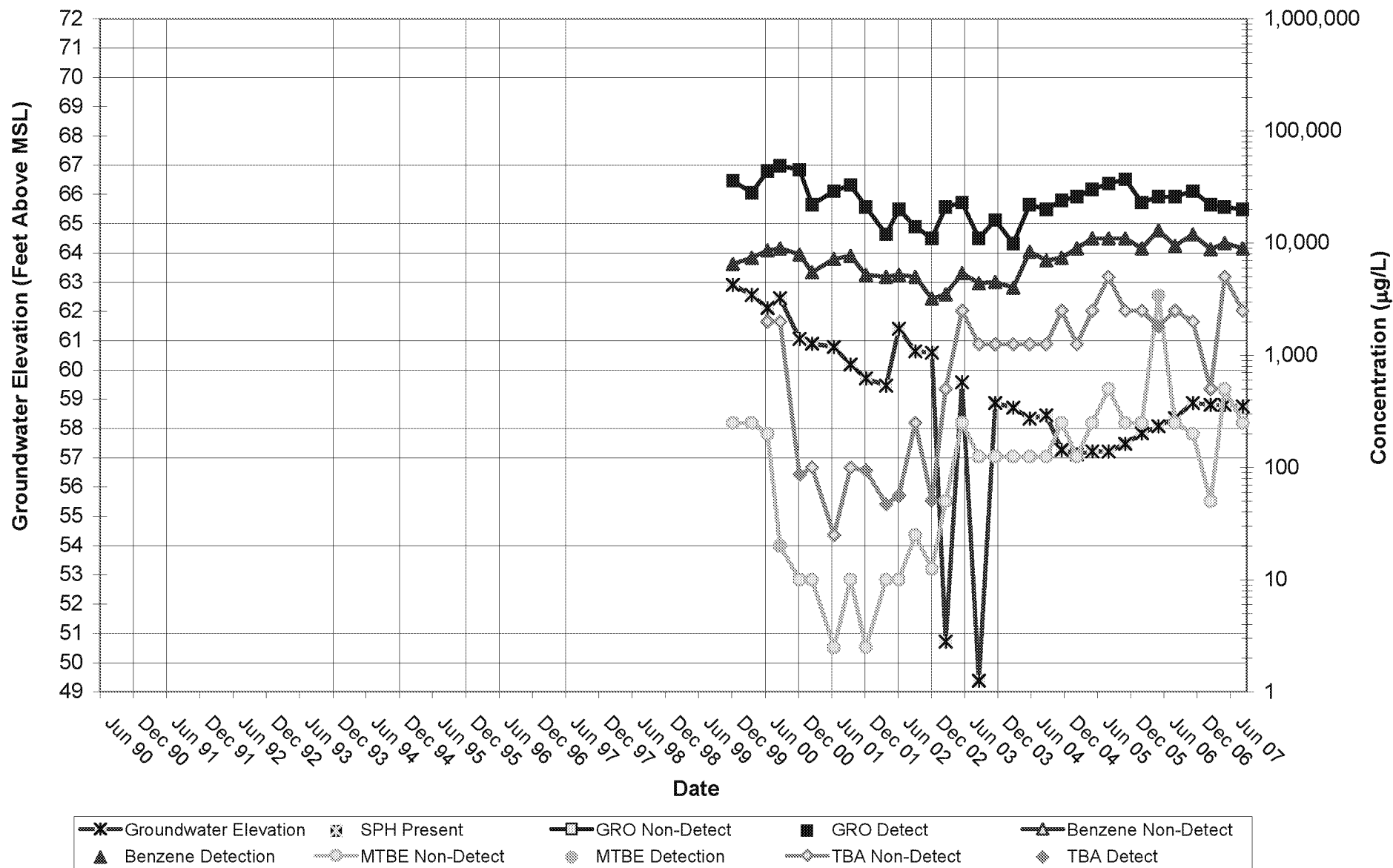
ARCO Station No. 5110
MW-A3 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

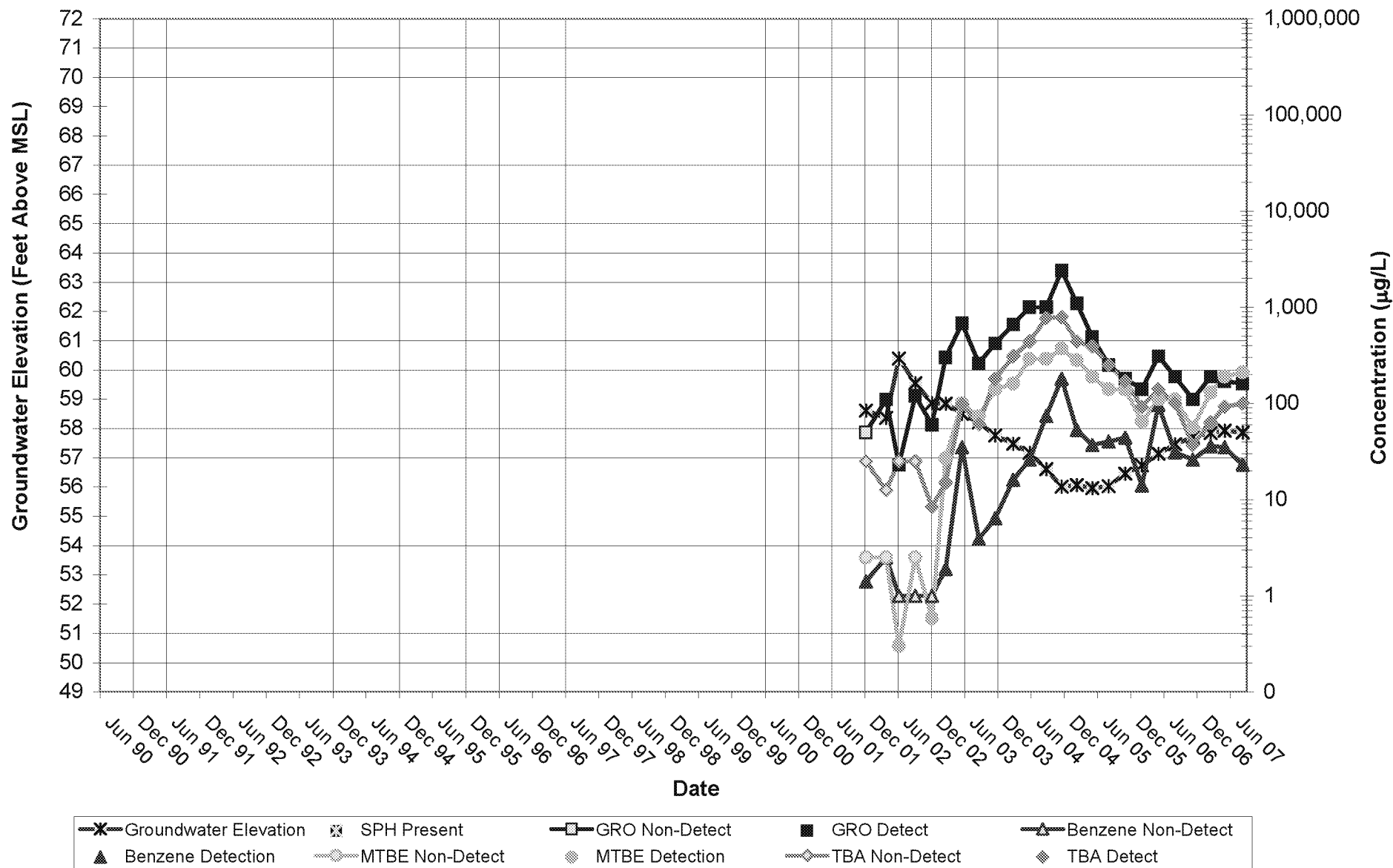
ARCO Station No. 5110
MW-A4 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

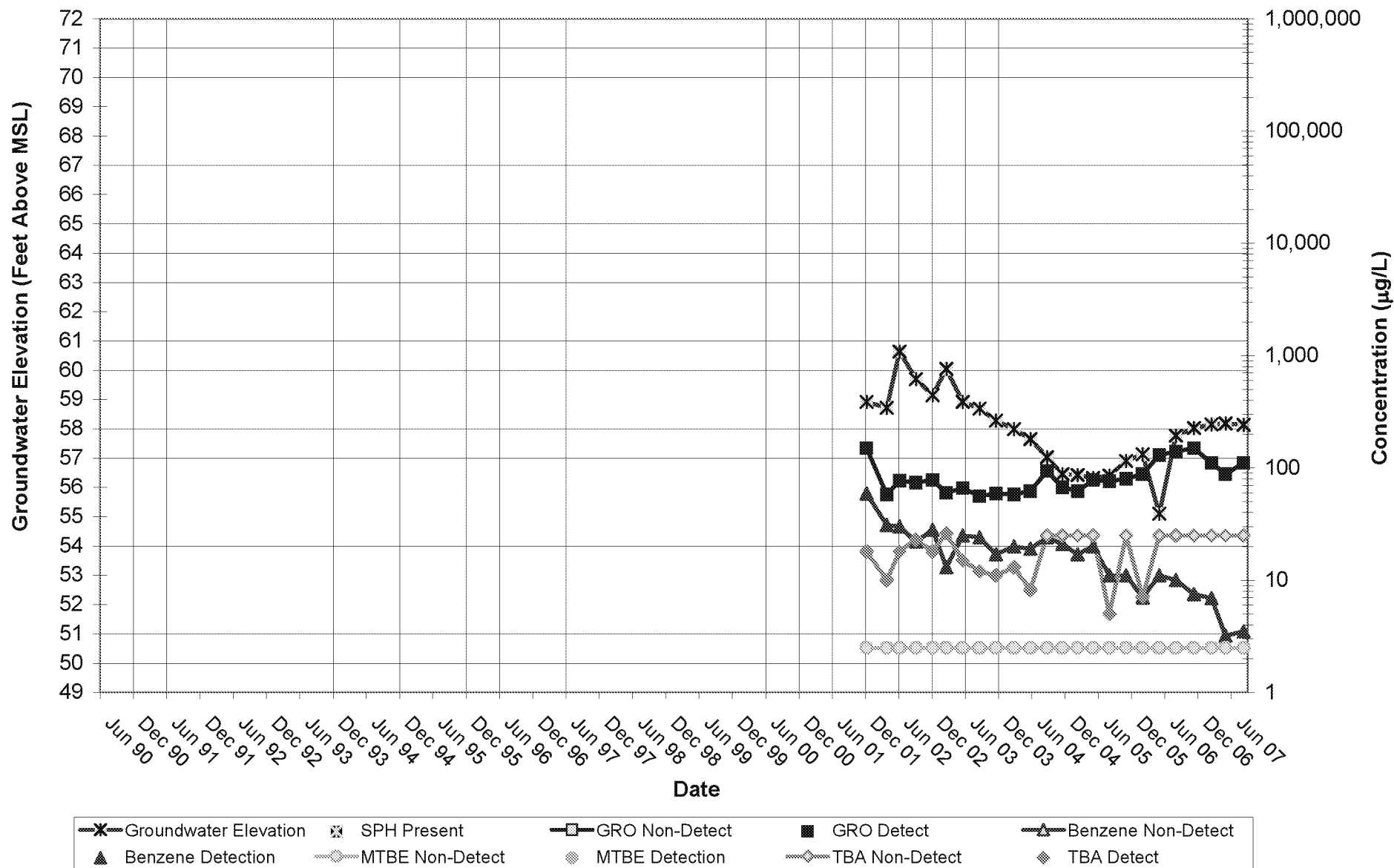
ARCO Station No. 5110
MW-A5 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

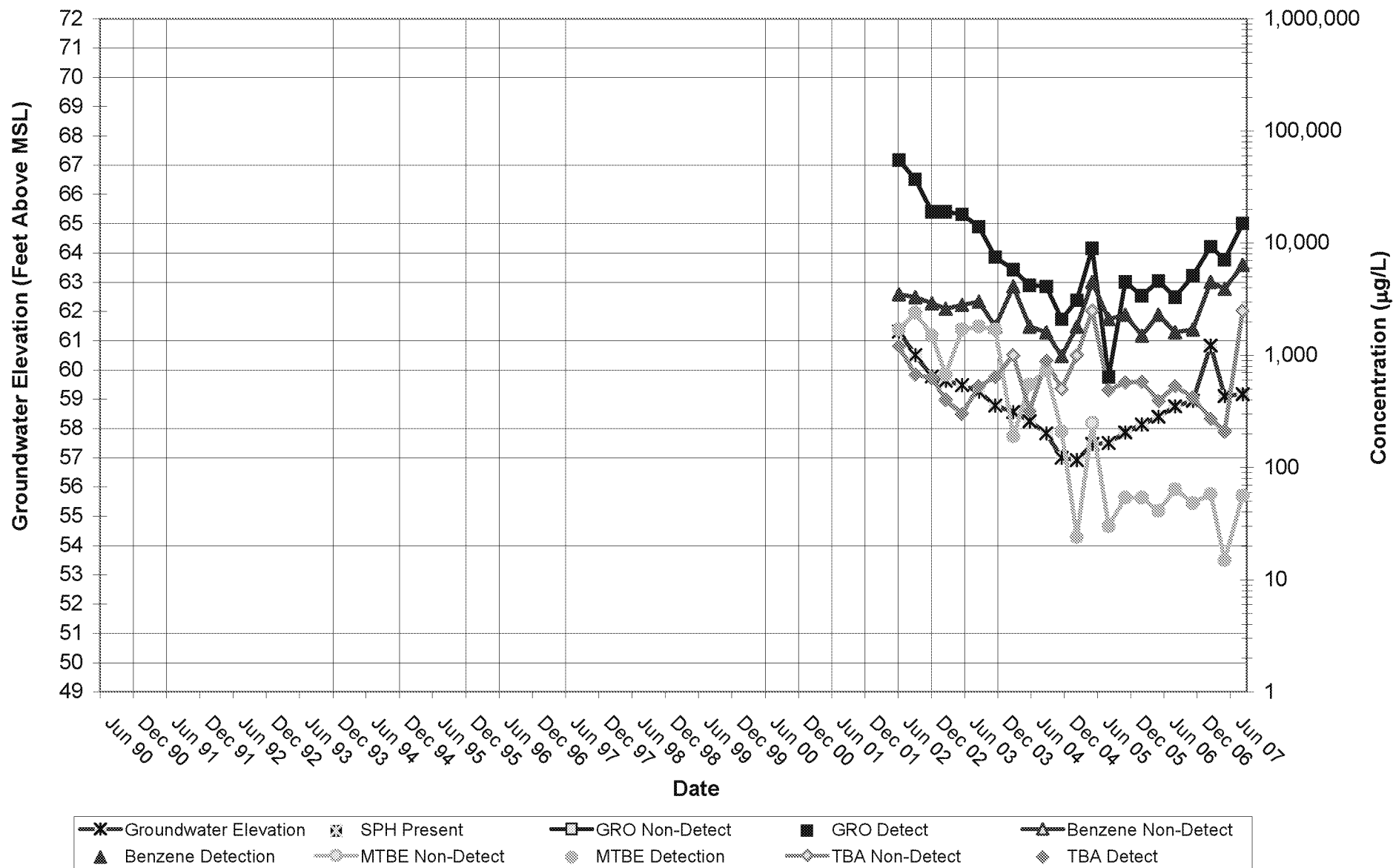
ARCO Station No. 5110
MW-A6 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

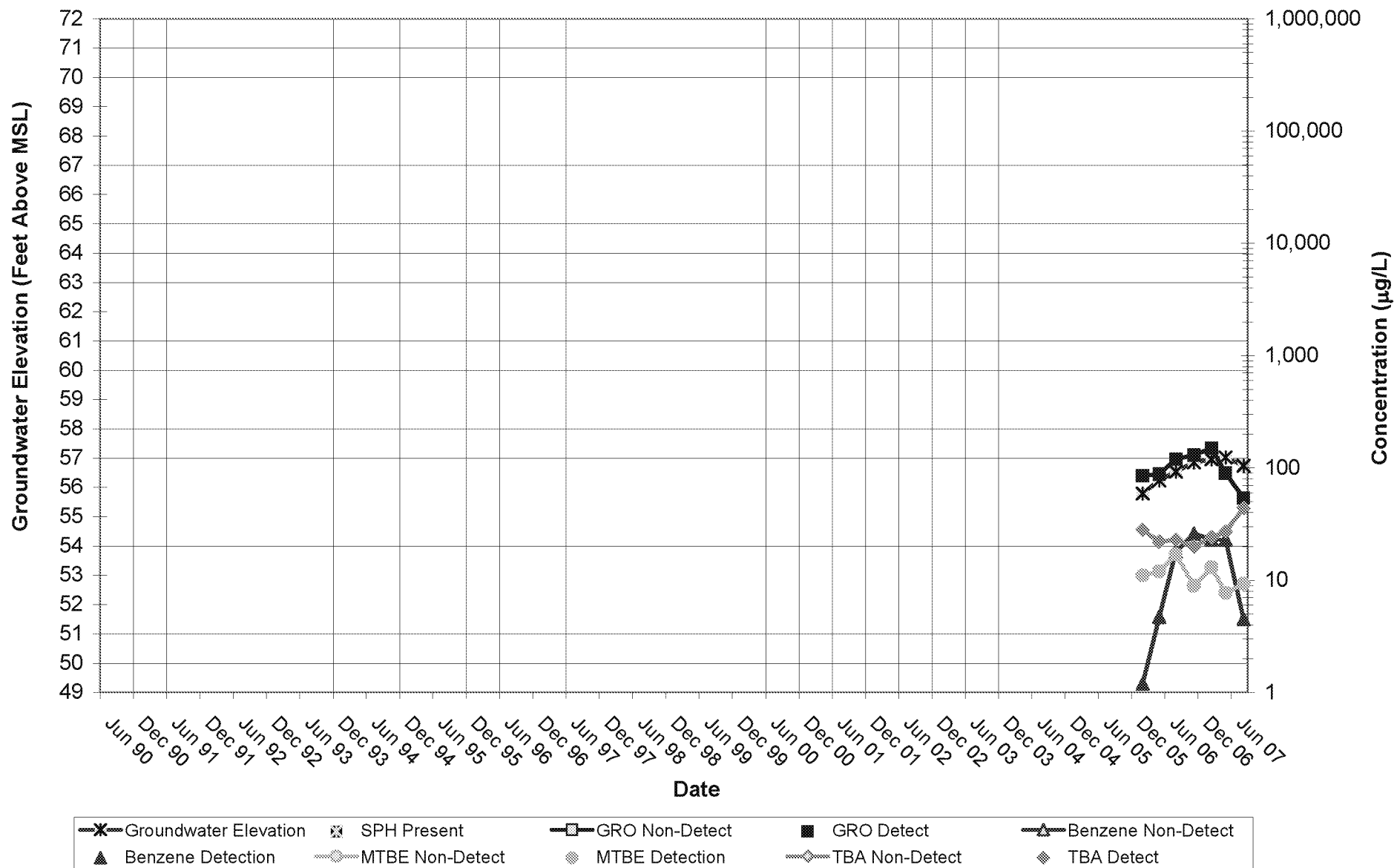
ARCO Station No. 5110
MW-A7 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

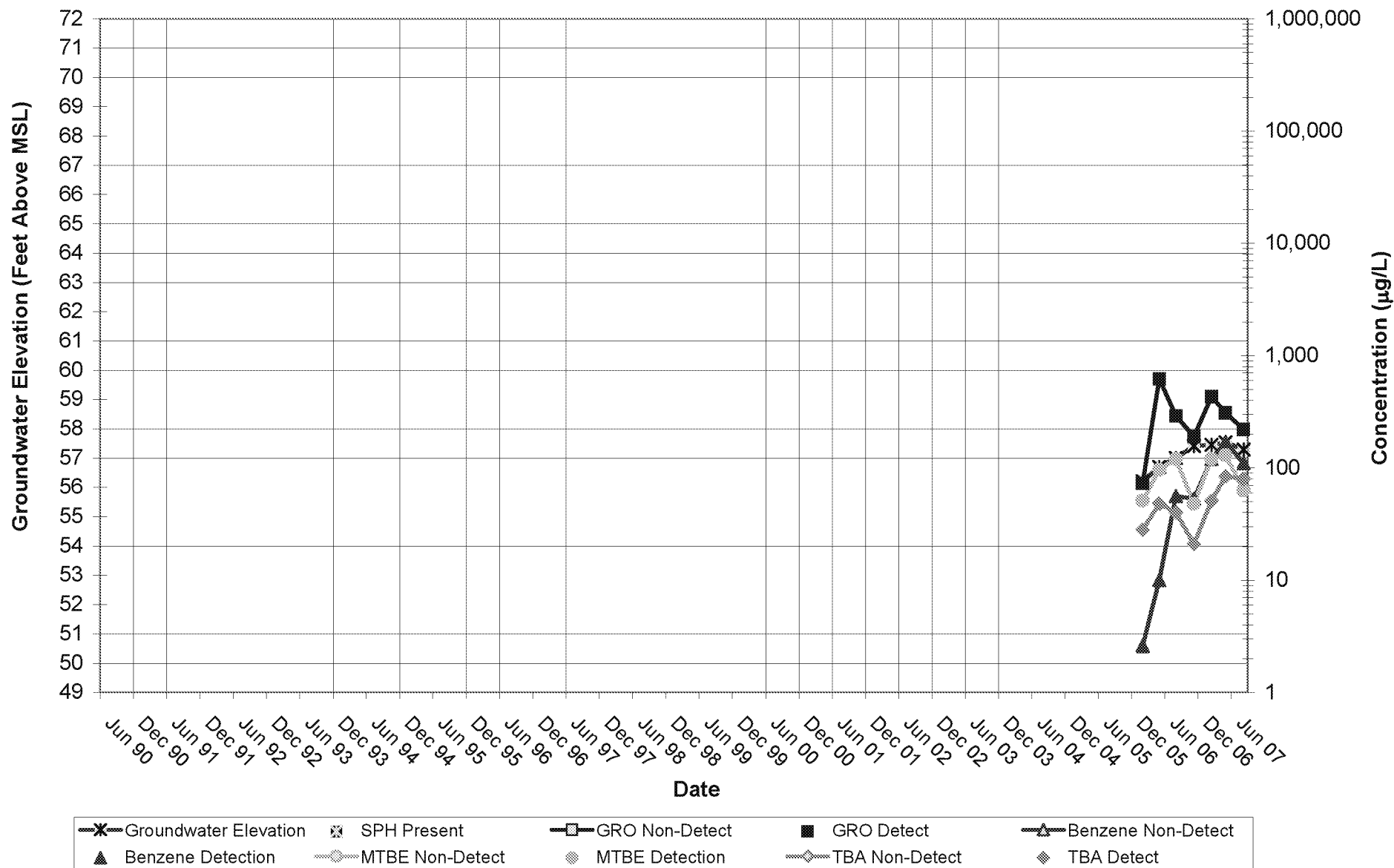
ARCO Station No. 5110
MW-A8D Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

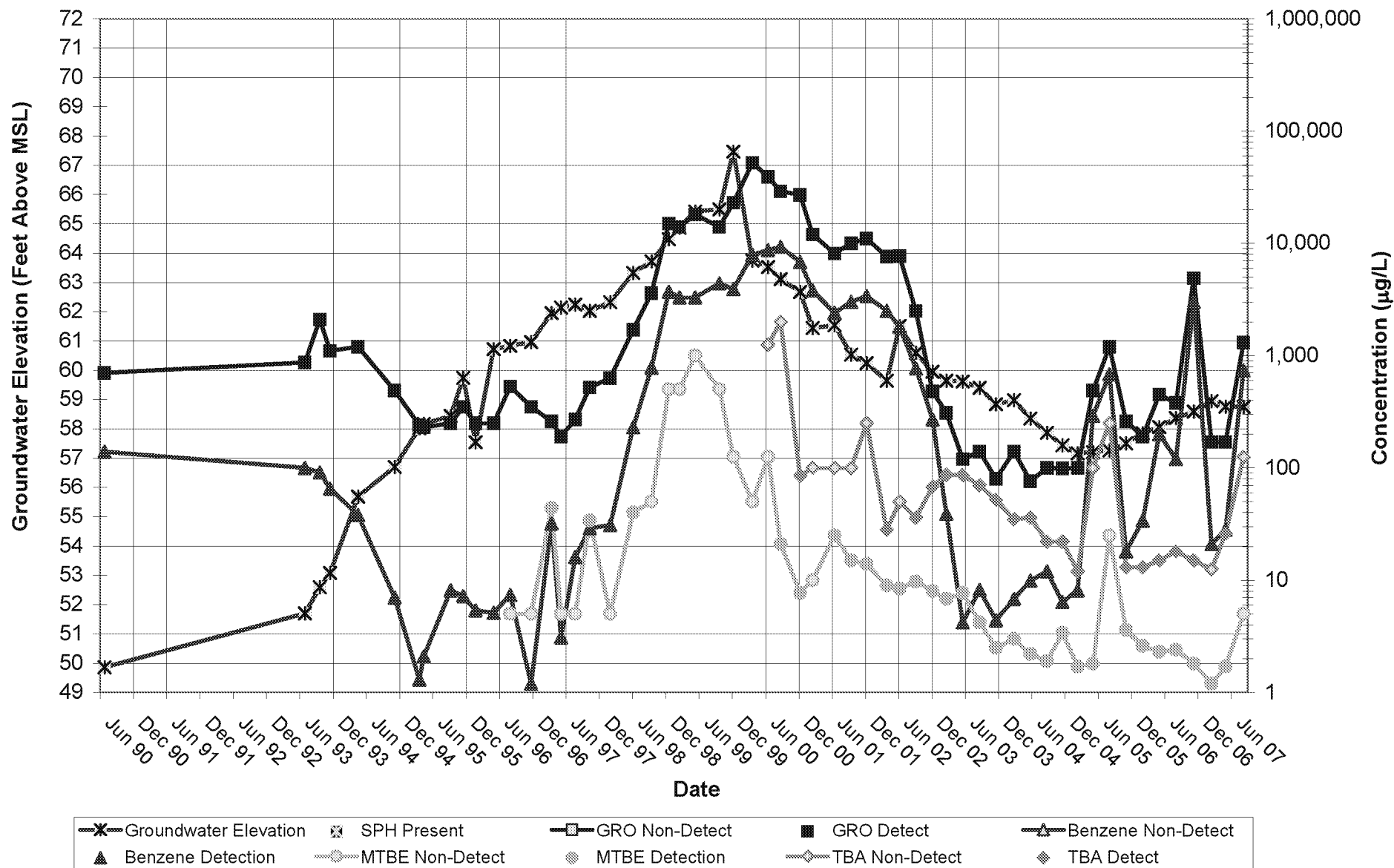
ARCO Station No. 5110
MW-A8S Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

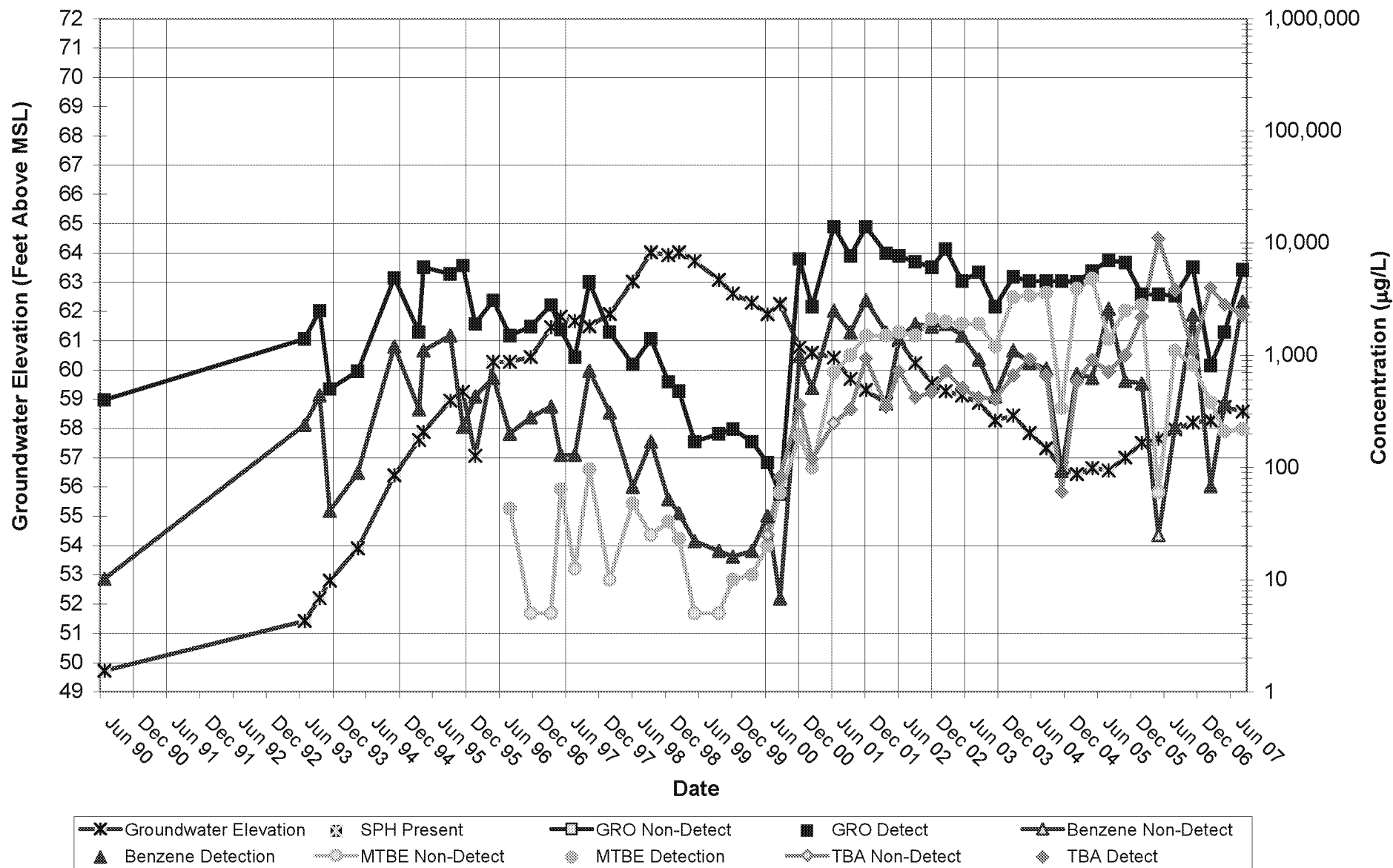
ARCO Station No. 5110
MW-19 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

ARCO Station No. 5110
MW-20 Hydrograph



Notes

1. No analytical samples were collected if SPH was present in the well during the sampling event.
2. Non-detected analytical results are graphed at a concentration of one-half of the laboratory reporting limit.
3. Trend lines are presented for reference purposes only and do not represent professional interpretation.
4. For additional information about data for a given sampling event (such as no data plotted), refer to Table 1.

APPENDICES

APPENDIX A

INTRODUCTION

SECOR International Incorporated (SECOR), on behalf of the Atlantic Richfield Company (Atlantic Richfield), presents this *Site Conceptual Model Update (SCMU)* for ARCO Station No. 5110 (Site) located at 5731 Firestone Boulevard, in South Gate, California (Figures 1 and 2). This report was prepared in response to the Los Angeles Regional Water Quality Control Board (LARWQCB) letters dated February 28, 2003 and August 27, 2003, titled *Implementation of Final Draft Guidelines for the Investigation and Cleanup of MTBE and Other Oxygenates* (Appendix A). The LARWQCB assigned the Site an investigation and cleanup priority of B2.

SECOR has prepared this report to present a detailed written and graphical description of the Site characteristics and known distribution of petroleum hydrocarbon constituents in soil and groundwater beneath the Site. The SCMU is based on currently available information.

SITE DESCRIPTION

Site Description

ARCO Station No. 5110 is an operating retail gasoline station and mini-mart located at the northwest corner of Firestone Boulevard and Garfield Avenue in South Gate, California. The Site is located at an elevation of approximately 107 feet above mean sea level (msl). Local topography slopes to the south-southwest at approximately 0.017 feet per foot (USGS, 1964). The Los Angeles River is located approximately 2,000 feet west of the Site. The Site currently maintains one 20,000-gallon, and one split 24,000-gallon (two 12,000-gallon chambers), Xerxes double-walled fiberglass underground storage tanks (USTs), and four fuel dispenser islands containing a total of eight fuel dispensers. All product piping consists of double-contained fiberglass product lines. All dispensers are equipped with under-dispenser containment sumps. A drive-through carwash facility and associated clarifier are located at the northwestern perimeter of the Site.

Surrounding Land Use

The ARCO Vinvale Terminal is located approximately 500 feet north of ARCO Station No. 5110 (Figure 2). The Vinvale Terminal covers an area of approximately 35 acres and currently is used for the storage and on-loading of gasoline and diesel fuel products for Atlantic Richfield retail outlets in the Los Angeles metropolitan area.

Surrounding Water Use

The Site is located within the Central Basin Pressure Area of the Central Groundwater basin of the Los Angeles Coastal Plain. The two main formations in this area, Lakewood and San Pedro, contain a series of distinct water-bearing zones that are separated by less-permeable zones or aquiclude. The Lakewood Formation is composed of four hydrostratigraphic zones: the Bellflower Aquiclude, the Exposition Aquifer, an unnamed aquiclude, and the Gage Aquifer. In the Site vicinity, the Bellflower Aquiclude extends from approximately 20 to 85 feet bgs. The underlying Exposition Aquifer can be divided into a middle hydrostratigraphic zone extending from approximately 85 to 210 feet bgs, and a deep hydrostratigraphic zone extending from approximately 210 to 275 feet bgs.

Locally, the Bellflower Aquiclude contains a relatively high percentage of sand and functions as an unconfined to semi-confined aquifer instead of a confining layer. This is the case at ARCO Station 5110 where groundwater is encountered within the Bellflower Aquiclude at depths ranging from approximately 40 to 57 feet bgs.

APPENDIX B

SITE BACKGROUND

This section presents a summary of historical assessment investigation activities that have been completed at the Site to date. Site maps showing historical soil boring/remedial well locations and historical UST, dispenser, and product line sample locations are included as Figures 3 through 5. A Site map showing hydrocarbon concentrations in soil is included as Figure 6. Historical soil analytical results are summarized in Table 1. Historical groundwater analytical and elevation data are summarized in Table 2. Well construction details are summarized in Table 3.

- In September and October 1989, James M. Montgomery Consulting Engineers, Inc. (JMM) observed the removal of four steel USTs and completed an initial site investigation consisting of the installation of three soil borings (A-1 through A-3) and two groundwater monitoring wells (MW-19 and MW-20). The soil borings and monitoring wells were completed to depths ranging from 57 to 71 feet below ground surface (bgs). Soil samples collected below the USTs contained a maximum total petroleum hydrocarbon as gasoline (TPHg) concentration of 7,900 milligrams per kilogram (mg/kg, 3B-17). Soil samples collected from the soil borings and monitoring wells contained a maximum concentration of 16,000 mg/kg TPHg (A-3-25'). Groundwater was encountered at approximately 57 feet bgs. Hydrocarbon impact was reportedly limited to the area in and around the former USTs (JMM, 1990). Historical figures showing the UST soil sample locations are included in Appendix B.
- In June 1990, JMM installed one nested soil vapor extraction (SVE)/groundwater monitoring well (D-1) and two SVE wells (D-2 and D-3). Soil samples contained TPHg concentrations ranging from below laboratory detection limits to 8,600 mg/kg (JMM, 1990). Groundwater samples contained TPHg concentrations ranging from 400 (MW-19) to 1,600 (D-1) micrograms per liter (µg/L), and benzene concentrations ranging from 10.2 µg/L (MW-20) to 800 µg/L (D-1).
- In March 1991, W.W. Irwin conducted a SVE test to evaluate SVE as a viable remedial alternative (W.W. Irwin, 1991). The radius of influence was determined to range from 76 to 100 feet. Vapor-phase TPHg concentrations ranged from 6,600 to 43,000 parts per million by volume (ppmV). Complete details and results of the SVE pilot test are presented in W.W. Irwin's *Report on Venting Test* dated March 27, 1991.
- In December 1992, JMM completed four additional soil borings (D-4 through D-7) to a depth of approximately 50 feet bgs (JMM, 1993). TPHg was not detected above the laboratory detection limits (<10 mg/kg). Detectable benzene concentrations ranged from 0.005 mg/kg (D-6-10') to 0.33 mg/kg (D-4-50').
- On April 5 and 6, 1994, Pacific Environmental Group, Inc. (PEG) installed one dual nested SVE well (VEW-1) and three triple-nested SVE wells (VEW-2 through VEW-4) to a depth of 60 feet bgs (PEG, 1995). Detectable TPHg concentrations ranged from 1.4 mg/kg (VEW-4-50') to 6,300 mg/kg (VEW-3-30'). Detectable benzene concentrations ranged from 0.006 mg/kg (VEW-1-30') to 60 mg/kg (VEW-2-25').
- Prior to January 30, 1998, PEG installed two off-Site groundwater monitoring wells (MW-A1 and MW-A2) adjacent to the Site. MW-A1 was completed in the southbound lane of Garfield Avenue. MW-A2 was completed in the eastbound lane of Firestone Boulevard. A technical report detailing the installation of these wells was not available.
- On December 1, 1999, SECOR completed two additional on-Site monitoring wells (MW-A3 and MW-

A4). Wells MW-A3 and MW-A4 were completed at the southeast and northwest corners of the Site, respectively, and screened from approximately 35 to 65 feet bgs. A detectable level of TPHg was identified in one soil sample at a concentration of 1.8 mg/kg (MW-A3-40'). Detectable benzene concentrations ranged from 0.0028 mg/kg (MW-A3-55') to 0.21 mg/kg (MW-A3-40). Methyl-tertiary-butyl ether (MTBE) concentrations were identified in one soil sample at a concentration of 0.037 mg/kg (MW-A3-40'; SECOR, 2000).

- On October 21 and 30, 2001, SECOR installed two additional off-Site monitoring wells MW-A5 and MW-A6, respectively. Monitoring well MW-A5 was installed in the eastbound lane of Firestone Boulevard, south of the Site. Monitoring well MW-A6 was installed in the sidewalk of the northbound lane of Garfield Avenue, east of the Site. Groundwater monitoring wells MW-A5 and MW-A6 were completed to a total depth of approximately 65 feet bgs. The well casings were constructed of four-inch diameter Schedule 40 PVC, and were screened (0.020-inch slot) from approximately 30 to 65 feet bgs (SECOR, 2001).
- On January 24 and 25, 2002, SECOR over-drilled and abandoned four SVE wells (VEW-1, VEW-3, VEW-4, and D-2), and one groundwater monitoring well (D-1). The wells were abandoned to accommodate scheduled demolition/renovation activities including removal and replacement of the USTs and re-location of the station building (SECOR, 2002a).
- From January through March, 2002, the Site was completely demolished and re-constructed. Demolition activities included removal of four 10,000-gallon, double-walled fiberglass USTs, all product dispensers, all associated subsurface product piping, dispenser island canopy, a clarifier associated with the former carwash, and demolition of the former station building. Renovation activities included installation of new USTs at the southern perimeter of the Site, new dispenser islands, new subsurface product and electrical piping, a new dispenser island canopy, new station building and carwash. A total of 27 soil samples were collected from beneath the USTs, clarifier, dispensers, and product lines and from the bottom of the new tankpit. Detectable concentrations of adsorbed-phase petroleum hydrocarbons were identified in 18 of the 27 submitted samples. The highest concentrations of adsorbed-phase hydrocarbons were detected in samples collected beneath the USTs (SECOR, 2002b). The maximum hydrocarbon concentrations were as follows: gasoline range organics (C4-C12; GRO) – 8,800 mg/kg (TK-4A-17); benzene – 16 mg/kg (TK-4A-17); MTBE – 8.1 mg/kg (TK-1B-17); and tertiary butanol (TBA) – 24 mg/kg (TK-4B-17). A total of approximately 2,115 tons of hydrocarbon-impacted soil was generated during the UST removal activities and transported to TPS Technologies, in Adelanto, California for disposal/recycling.
- On February 14, 2002, one 20,000-gallon, and one split 24,000-gallon (two 12,000-gallon chambers), Xerxes double-walled fiberglass USTs were installed in a new tankpit located at the southern end of the Site. New double-contained fiberglass product piping was installed from the USTs to four new dispenser islands, and under-dispenser containment sumps were installed below the new dispensers. A new clarifier was installed on-Site for use with the new on-Site car wash facility. Prior to installation of the new USTs, four baseline soil samples (NTK-1A-18', NTK-1B-18', NTK-2A-18', and NTK-2B-18') were collected from the bottom of the new tankpit excavation (SECOR, 2002b).
- In March 2002, SECOR supervised the trenching and installation of approximately 400 feet of subsurface remedial conveyance piping at the Site. The remedial piping was installed to implement possible future SVE activities at the Site. Subsurface piping was constructed using one inch (AS), two inch (SVE), and six inch diameter PVC lines and was extended to existing vapor extraction wells D-3 and VEW-2, and to 18-inch diameter well boxes installed in strategic locations to accommodate possible future remedial well installation at the Site.

- On April 16, 2002, SECOR advanced one soil boring within the former UST basin and converted it to a dual-nested groundwater monitoring/SVE well (MW-A7), to replace abandoned groundwater monitoring well D-1 (SECOR, 2002a). MW-A7 was constructed using two-inch (SVE) and four-inch (groundwater monitoring) diameter PVC casing screened (0.020-inch slot) from approximately ten to 30 feet bgs and 35 to 60 feet bgs, respectively. A total of 12 soil samples were collected and analyzed. Detectable concentrations of petroleum hydrocarbon constituents were identified in all 12 samples. Maximum petroleum hydrocarbon concentrations were identified as follows: GRO – 1,400 mg/kg (MW-A7-30); benzene – 1.5 mg/kg (MW-A7-25); MTBE – 7.7 mg/kg (MW-A7-20); and TBA – 16 mg/kg (MW-A7-20).
- In a letter dated February 28, 2003, entitled *Implementation of Final Draft Guidelines for the Investigation and Cleanup of MTBE and Other Oxygenates*, the LARWQCB assigned the Site a cleanup priority of B2 (issued to all sites greater than 1,000 feet and less than 3,000 feet from a receptor, with or without MTBE/oxygenates detection: Appendix A).
- SECOR submitted a Remedial Action Plan (RAP) dated June 25, 2003, in which SECOR proposed the installation of an air sparge (AS)/soil vapor extraction (SVE) system. In the RAP, SECOR proposed using existing SVE wells VEW-2 and D-3, monitoring well MW-A7, and installing five AS/SVE wells to implement the proposed AS/SVE remedial system.
- In a letter dated August 27, 2003, the LARWQCB approved the installation of the five proposed AS/SVE wells and installation of the proposed remedial AS/SVE system (Appendix A).
- From September 29 through October 4, 2003, SECOR installed five triple nested AS/SVE wells (AS/SVE-1 through AS/SVE-5). A total of 70 soil samples were collected and analyzed from soil borings AS/SVE-1 through AS/SVE-5. The maximum concentrations of adsorbed-phase hydrocarbons were identified as follows: GRO – 6,700 mg/kg (AS/SVE-2-45), benzene – 12 mg/kg (AS/SVE-2-45), and MTBE – 11 mg/kg (AS/SVE-2-30). AS wells were completed using 1-inch diameter Schedule 80 PVC with a 2-foot stainless steel air sparge point set to depths ranging from approximately 60 to 68 feet bgs. The nested SVE wells were completed using Schedule 40 PVC with 0.020 slotted screen intervals extending from approximately 7 to 27 and 35 to 55 feet bgs.
- Two soil samples were submitted from soil boring AS/SVE-2 (AS/SVE-2-58 and AS/SVE-2-65) for physical property data analysis to determine soil classification, particle size and distribution, and hydraulic conductivity (K). Sample AS/SVE-2-58 and AS/SVE-2-65 are silty sands representative of the aquifer material with vertical K values of 1.51×10^{-4} and 4.42×10^{-5} centimeters per second (cm/s), respectively. A value of 10^{-6} is the approximate K value for clay and is considered the standard for a competent confining layer. Laboratory physical property data were included in SECOR's Fourth Quarter 2003 Site Conceptual Model Update Report, dated January 15, 2004.
- On October 12, 2005 SECOR installed off-Site, dual-nested groundwater monitoring well MW-A8. A total of 18 soil samples were collected and analyzed. GRO and benzene were not identified above the laboratory reporting limit (RL) in any of the samples. MTBE was identified in the 65 foot sample at a concentration of 0.0067 mg/kg (MW-A8-65) and TBA was identified in the 90 foot sample at a concentration of 0.095 mg/kg (MW-A8-90). Well MW-A8 was completed using Schedule 40 PVC with 0.020 slotted screen intervals extending from approximately 43 to 63 and 74 to 93 feet bgs.
- Quarterly groundwater monitoring and sampling has been conducted at the Site since June 1993.

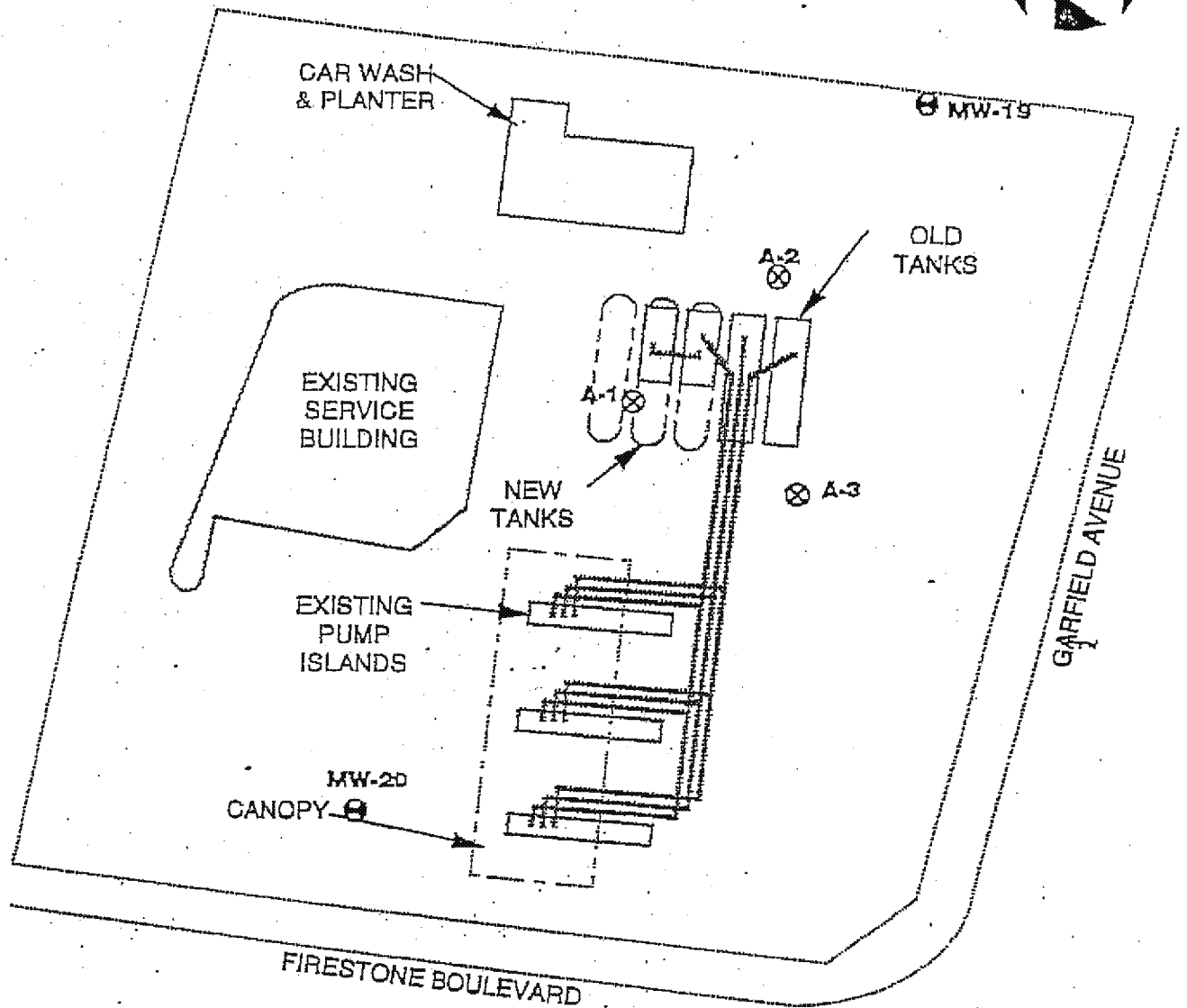
Record Fee Title Holder Information

Based on historical groundwater analytical data, the following adjacent properties may potentially be impacted by releases originating from ARCO Station No. 5110 (Property Grant Deed's were provided in the Second Quarter 2003 SCMU).

- **ARCO Station #5110**
Property Address: 5731 East Firestone Boulevard, South Gate, California
Assessor's Parcel Number: 6232-002-004
Owner: Atlantic Richfield Company
Mailing Address: 4 Centerpointe Drive, La Palma, California 90623
Source: Atlantic Richfield files
- **McDonald's Restaurant**
Property Address: 5700 Firestone Boulevard, South Gate, California, located south of the Site, across Firestone Boulevard.
Assessor's Parcel Number: 6232-009-003
Owner: Nevada Investment Holdings, Inc.
Mailing Address: 220 Congress Park Drive, Suite 230, Delray Beach, Florida 33445
Source: Los Angeles County Recorder & Los Angeles County Assessor's Office
- **Gonzales Chrysler-Plymouth Car Dealership**
Property Address: 5820 Firestone Boulevard, South Gate, California, located southeast of the Site, across Firestone Boulevard
Assessor's Parcel Number: 6232-007-021 and 6232-007-022 (formerly known as 6232- 007-009 and 6232-007-010)
Owner: Silvestre Gonzales
Mailing Address: 9500 Rayo Avenue, South Gate, California 90280
Source: Los Angeles County Recorder & Los Angeles County Assessor's Office
- **Denny's Restaurant**
Property Address: 5811 Firestone Boulevard, South Gate, California, located east of the Site, across Garfield Avenue
Assessor's Parcel Number: 6232-004-016
Owner: Prime Cut Grill South Gate Inc.
Mailing Address: 5811 Firestone Boulevard, South Gate, California
Source: KnowX LLC (Real Estate Records Research Company).

APPENDIX C

HISTORIC FIGURES



VAPOR RECOVERY LINES NOT SHOWN
(PARALLEL TO PRODUCT LINES)

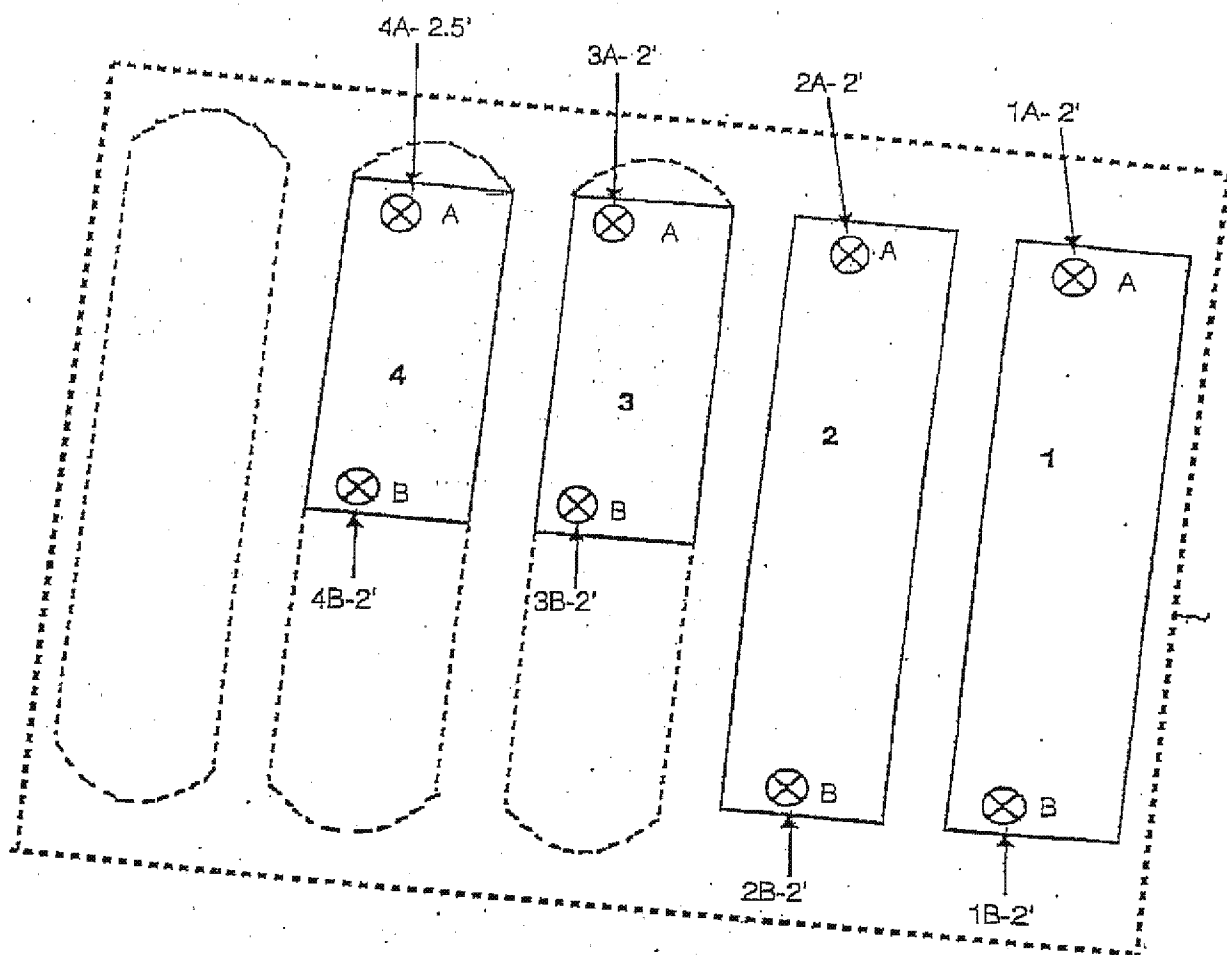
⊗ PRELIMINARY SOIL BORING LOCATION

⊙ MONITORING WELL

0 20 40
FEET

APPROXIMATE REGIONAL
GROUNDWATER FLOW

ARCO AM/PM #5110
Site Map and Preliminary Sample Locations
Figure 2



0 5 10
FEET



SAMPLE A-3

1 TANK 1

----- APPROXIMATE LOCATION OF NEW TANK

----- APPROXIMATE EXTENT OF EXCAVATION

ARCO SERVICE STATION #5110
SAMPLE LOCATIONS BENEATH REMOVED TANKS
FIGURE 3

APPENDIX D

SITE GEOLOGY AND HYDROGEOLOGY

Site Geology

ARCO Station 5110 is located on the floodplain between the Los Angeles River and the Rio Hondo River. The Site is located within the Central Block physiographic province of the Los Angeles Basin (Yerkes, et al., 1965). The Central Block is a 55-mile long, wedge-shaped block oriented in a northwest-southeast direction in the middle portion of the Los Angeles Basin. It is bounded on the southwest by the northwest-trending Newport-Inglewood Uplift structural zone, on the northeast by the Whittier fault and the Elysian-Repetto-Coyote Hills sequence, on the southeast by the Santa Ana Mountains, and on the northwest by the Santa Monica Mountains (California Department of Water Resources, or CDWR, 1961).

The Site is underlain by approximately 20 feet of Holocene alluvial deposits consisting primarily of silt, clay, and discontinuous lenses of sand. These sediments represent river system deposits derived from the ancestral Los Angeles and Rio Hondo Rivers. The Upper Pleistocene Lakewood Formation extends from approximately 20 to 275 feet bgs. The upper part of the Lakewood Formation consists predominantly of fine-grained silt and clay while the lower portion of the Lakewood Formation contains greater percentages of sand with some gravel lenses. The Lower Pleistocene San Pedro Formation extends from a depth of approximately 275 to 1,200 feet bgs, and consists of marine and continental gravel, sand, sandy silt, silt and clay (PEG, 1998).

The maximum depth explored at ARCO Station No. 5110 is 94 feet bgs or the SHZ. Soil encountered during subsurface drilling investigations can be separated into five primary lithologic horizons: 1) interbedded sand, silty sand, silt, and thinly bedded clay from approximately near surface grade to 30 feet bgs; 2) sand from approximately 30 to 45 feet bgs; 3) thinly bedded clay, silt, and silty sand from approximately 45 to 55 feet bgs; 4) sand from approximately 55 to 65 feet bgs; and 5) silt and silty sand from approximately 65 to 70 feet bgs (maximum depth explored). A Site map with cross-sectional index lines is included as Figure 7. Generalized cross sections A-A' and B-B' depict the subsurface lithology and are included as Figures 8 and 9, respectively. Historical soil boring logs were provided in the Fourth Quarter 2003 SCMU.

Site Hydrogeology

Based on information obtained by SECOR during completion of assessment work at the Site and at the adjacent Vinvale Terminal, groundwater in the Site vicinity is encountered in four distinct water bearing zones (WBZ; SECOR, 2004). The encountered depth and vertical extent of these zones is approximately as follows:

- Shallow Hydrostratigraphic Zone (SHZ) - Typically encountered between 40 to 50 feet bgs and extends to 88 to 96 feet bgs. It is correlated to the more permeable zones of the Bellflower Aquiclude. Groundwater in this zone flows in a southeast to southwesterly direction at a shallow gradient that has averaged 0.002 ft/ft over the last three years. The SHZ is underlain by five to 15 feet of low-permeability silts and clays.
- Middle Hydrostratigraphic Zone (MHZ) - Typically encountered at 100 to 115 feet bgs and extends to 160 to 180 feet bgs. It is correlated to the regional Exposition Aquifer. Groundwater in this zone flows in a south to southwesterly direction at a shallow gradient that has averaged 0.001 ft/ft. The MHZ is underlain by 20 to 40 feet of low-permeability silts and clays.
- Unnamed Hydrostratigraphic Zone (UHZ) - The next successive water bearing zone was identified by the interpretation of geophysical logs and boring logs collected during the installation of well clusters CW-1, CW-2, and CW-3 (Montgomery Watson, 1993). It is interpreted from 200 to 280 feet

bgs and correlated to the regional Gage Aquifer. This WBZ is not currently monitored by any wells associated with the Vinvale Terminal and no soil or groundwater quality data is known for this depth interval. The Gage Aquifer is separated from the fourth hydrostratigraphic zone by at least 20 feet of probably cohesive, clay-rich sediments.

- Deep Hydrostratigraphic Zone (DHZ) - The upper portion of the fourth WBZ, identified as the DHZ, has been encountered between 300 and 320 feet in cluster wells CW-1, CW-2 and CW-3. Based on SECOR's reevaluation of the "Fire Well" 1923 drillers' log and the cluster well data, the DHZ appears to correlate to the regional Hollydale Aquifer, however, historic work suggests that the Hollydale may be discontinuous in this area (CDWR, 1961). Groundwater in this zone flows in a southeast to northeasterly direction at a shallow gradient that has averaged 0.003 ft/ft over the last three years.

Depth to groundwater in the on-Site wells has ranged from a low of 61.33 feet bgs in August 2003 (MW-A4) to a high of 36.45 feet bgs in May 1999 (MW-A2). Groundwater levels across the Site rose steadily from June 1990 through approximately the end of 1999 (approximately 13 feet), and then began dropping and have continued to drop (approximately nine feet) through the Third Quarter 2004. Since the Third Quarter 2004, groundwater levels across the Site appear to have increased by approximately two feet over the last three years and have since stabilized to approximately 50 feet bgs.

APPENDIX E

MUNICIPAL WELL SURVEY

Public Well Information

SECOR researched the location of potential municipal/public supply wells using the following sources: 1) Geographic Environmental Information Management System (GEIMS) database via the Geotracker website (www.geotracker.swrcb.ca.gov); 2) Los Angeles Department of Water Resources (LADWR) Watermaster website (www.dpla.water.ca.gov/sd/groundwater/wells); 3) Los Angeles Department of Public Works (LADPW) website (www.ladpw.org); 4) Water Replenishment District of Southern California (WRD), 5) City of Southgate, 6) and Environmental Data Resources, Inc. (EDR) website (www.edrnet.com). A total of 30 wells were identified within a one-mile radius of the Site. A summary of the available well information is summarized in Table 4. A Site map showing wells identified within a one-mile radius is included as Figure 1.

- The closest identified well that is known to be actively used for municipal supply is the City of South Gate Well 03S/12W-05D02 (1535H). This well is located approximately 1,700 feet south of the Site in a clustered area east of the Los Angeles River and west of the Long Beach Freeway.

APPENDIX F

HYDROCARBON IMPACTED SOIL

This section briefly summarizes the extent of petroleum hydrocarbons in soil (including the capillary fringe) at the Site. The information was compiled through the analysis of soil samples collected during site assessment activities.

Hydrocarbon Distribution in Soil

Based on analytical data collected from UST removal and replacement operations and numerous assessment activities, the highest concentrations of adsorbed-phase hydrocarbons were identified beneath the former USTs, and at the eastern end of the former central dispenser island. Soil samples collected beneath the USTs in February 2002, contained GRO concentrations up to 8,800 mg/kg (TK-4A-17), benzene concentrations up to 16 mg/kg (TK-4A-17), and MTBE concentrations up to 8.1 mg/kg (TK-1B-17). Soil samples collected from borings installed within and peripheral to the former USTs indicated that elevated concentrations of TPHg and benzene, toluene, ethyl-benzene, and total xylenes (BTEX) extend from approximately ten feet bgs to 60 feet bgs in the area of the former USTs. Analytical data from recent soil borings installed within the area of the former USTs (MW-A7, AS/SVE-1 and AS/SVE-2) indicated that elevated concentrations of MTBE (11 mg/kg; AS/SVE-2-30) and TBA (16 mg/kg; MW-A7-20) were identified within the upper 20 feet of the soil column, with lower concentrations of MTBE and TBA extending to approximately 65 feet bgs. Analytical data indicates that the former USTs are the primary source area for adsorbed-phase hydrocarbon contamination at the Site. The lateral extent of the adsorbed-phase hydrocarbon plume in the vicinity of the former USTs appears to be defined to the west by VEW-1, to the north by D-6, to the east by D-4, and to the south by D-3. A site map showing hydrocarbon concentrations in soil is included as Figure 6. Historical soil analytical results are summarized in Table 1.

During Site demolition and renovation activities conducted in February 2002, soil samples collected beneath the eastern end of the central dispenser island indicated elevated concentrations of GRO (3,500 mg/kg; D-6-2) and total xylenes (360 mg/kg; D-6-2). Additionally, soil excavated from the eastern end of the new tankpit at the southern end of the Site was stained dark gray and contained hydrocarbon odors. Soil samples collected from shoring soil boring SB-5, installed along the northeast perimeter of the new tankpit, contained TPHg concentrations up to 1,200 mg/kg (SB-5-5). Soil samples collected from the base of the new tankpit contained MTBE concentrations of up to 0.59 mg/kg (NTK-1B-18). Recent soil borings AS/SVE-4 and AS/SVE-3 identified elevated concentrations of GRO (3,100 mg/kg; AS/SVE-4-15) and benzene (2.6 mg/kg; AS/SVE-4-30) within the upper 30 feet of the soil column. It appears that the former central dispenser island was an additional source area for adsorbed-phase hydrocarbon contamination. The lateral extent of the adsorbed-phase hydrocarbon plume in this area is predominantly defined to the east by MW-A3, and to the west by AS/SVE-5.

Low-level concentrations of adsorbed-phase hydrocarbons have been identified from 40 to 65 feet bgs, within the capillary fringe and saturated zones, in nearly all borings installed on-and off-Site. Fluctuating groundwater elevations (which have fluctuated as much as 17 feet in MW-19) have likely smeared and transported adsorbed-phase petroleum hydrocarbons across the Site within the capillary fringe.

APPENDIX G

HYDROCARBON IMPACTED GROUNDWATER

All groundwater samples were relinquished to Test America of Irvine, California for chemical analysis. SECOR and Test America adhered to strict chain-of-custody procedures from sample collection to sample analysis. All groundwater samples were analyzed for the following analytes and in accordance with the appropriate Environmental Protection Agency (EPA) method:

- Gasoline range organics C₄-C₁₂ (GRO) by EPA Method 8015B; and
- BTEX, di-isopropyl ether (DIPE), ethyl-tertiary-butyl ether (ETBE), tertiary-amyl-methyl ether (TAME), TBA, MTBE, and ethanol by EPA Method 8260B.

QUARTERLY GROUNDWATER MONITORING AND SAMPLING

A groundwater gradient map and hydrocarbon concentration maps for GRO, benzene, MTBE, and TBA for this quarter are presented as Figures 11 through 14, respectively. Hydrographs for individual wells are presented in the graphs section. The laboratory analytical report with chain-of-custody documentation, groundwater sampling field data sheets, and waste disposal documents are included in Appendix N, O, and P, respectively. Historical groundwater analytical and elevation results are summarized in Table 2.

Dissolved-Phase Hydrocarbon Plume

The ARCO Vinvale Terminal is located approximately 500 feet north of ARCO Station No. 5110 (Figure 2). The Vinvale Terminal covers an area of approximately 35 acres and currently is used for the storage and on-loading of gasoline and diesel fuel products for ARCO retail outlets in the Los Angeles metropolitan area. The Vinvale Terminal maintains ten aboveground storage tanks (ASTs) for various grades of refined products and one slop oil AST. The total tank working capacity is approximately 34 million gallons. A multi-bay fuel loading rack is located in the southwestern portion of the Vinvale Terminal.

Based on the historical quarterly groundwater analytical results, it appears that dissolved-phase GRO and BTEX constituents are migrating southward from the ARCO Vinvale Terminal to ARCO Station No. 5110, resulting in commingling of the groundwater plume on the northern portion of the station property. This is evidenced by historically elevated concentrations of GRO and BTEX in monitoring wells MW-A4 and MW-19, which are located north and northeast (up-gradient) of the former and existing USTs and associated dispensers and product lines at the Site. The highest historical concentration of GRO (52,000 µg/L on March 21, 2000) was identified in MW-19. The highest historical concentration of benzene (13,000 µg/L on May 2, 2006) was identified in MW-A4. Well MW-19 has historically had non detectable to very low concentrations of fuel oxygenates, suggesting that the dissolved-phase plume at the northern portion of the Site represents a commingling of plumes with the Vinvale Terminal. Wells MW-A7, MW-A3, MW-A4, MW-A2, and MW-20 contain elevated concentrations of GRO, BTEX, and fuel oxygenates, and appear to indicate contamination associated with operation of the former USTs and dispensers at the Site, which distributed the fuel additive MTBE.

MTBE was first analyzed for and detected at the Site in July 1996. The highest concentrations of MTBE have historically been detected in former monitoring well D-1 (abandoned January 24, 2002), located immediately north of the former USTs. The highest historical MTBE concentration of 11,000 µg/L was detected in D-1 in December 1999. Currently the highest MTBE concentration was detected in MW-A3 (260 µg/L) on August 7, 2007. The maximum TBA concentration was reported in well MW-20 on May 2, 2006, at a concentration

of 11,000 µg/L. Elevated concentrations of fuel oxygenates, primarily MTBE and TBA, have historically been limited to the on-Site wells.

On August 7, 2007, SECOR conducted the Third Quarter 2007 Groundwater Monitoring and Sampling event at the Site. A total of eleven groundwater monitoring wells (MW-19, MW-20, and MW-A1 through MW-8S/D) were gauged and sampled. Depth to groundwater in the on- and off-Site groundwater monitoring wells ranged from 49.53 to 51.95 feet bgs. The groundwater flow direction was to the south-southeast at a gradient of approximately 0.003 feet per foot. . In comparison to Second Quarter 2007 concentrations, Third Quarter 2007 dissolved-phase hydrocarbon constituents have primarily remained stable or decreased in the off-Site wells (MW-A1, MW-A2, MW-A5, MW-A6, and MW-A8S/D). During the Third Quarter 2007, increased GRO and benzene concentrations were observed in on-Site wells MW-A7, MW-19, and MW-20, while these constituents were observed to primarily remain stable or decrease in on-Site wells MW-A3 and MW-A4. The southern portion of the plume (MW-A8S/A8D) showed relatively stable concentrations in GRO, benzene, MTBE, and TBA with maximum concentrations of 220 µg/L, 110 µg/L, 63 µg/L, and 80 µg/L in MW-A8S, and 54 µg/L, 4.5 µg/L, 9.3 µg/L, and 44 J µg/L in MW-A8D, respectively. MTBE and TBA concentrations have primarily remained stable or decreased across the Site in comparison to Second Quarter 2007 concentrations.

APPENDIX H

PLUME TRAVEL TIME ESTIMATE

On July 15, 2007, SECOR submitted a revised Plume Travel Time report. A conservative estimate of the plume travel time was made using BIOSCREEN-AT, a Microsoft Excel spreadsheet analytical model based on the Domenico analytical solute transport model. The nearest municipal well receptor was identified as well 03S/12W-05D02, located approximately 1,700 feet south of the Site. The revised plume travel time estimate was based on the time for 370 µg/L of MTBE to reach the nearest receptor well (370 µg/L was the primary maximum contaminant level for MTBE).

Based on the model, SECOR determined the most likely scenario is a plume travel time of 177 years. The July 15, 2007 BIOSCREEN Input and Output are attached within this appendix.

BIOSCREEN-AT Natural Attenuation Decision Support System

S.S. Papadopoulos & Associates, Inc.

Version 1.41

ARCO 5110

2007-Q2 - (MtBE)

Data Input Instructions:

115

or

0.02

1. Enter value directly... or
 2. Calculate by filling in grey cells below. (To restore formulas, hit button below)
- Variable*
- 20
- Data used directly in model.
- Value calculated by model (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	6.897638	(ft/yr)
or			
Hydraulic Conductivity	K	5.0E-04	(cm/sec)
Hydraulic Gradient	i	0.004	(ft/ft)
Porosity	n	0.3	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	30.333	(ft)
Transverse Dispersivity*	alpha y	3.033	(ft)
Vertical Dispersivity*	alpha z	0.000	(ft)
or			
Estimated Plume Length	Lp	1700	(ft)

3. ADSORPTION

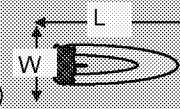
Retardation Factor*	R	1.0	(-)
or			
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	12.6	(L/kg)
Fraction Organic Carbon	foc	1.0E-4	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	1.0E+0	(per yr)
or			
Solute Half-Life	t-half	0.69	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO		(mg/L)
Delta Nitrate*	NO3		(mg/L)
Observed Ferrous Iron*	Fe2+		(mg/L)
Delta Sulfate*	SO4		(mg/L)
Observed Methane*	CH4		(mg/L)

5. GENERAL

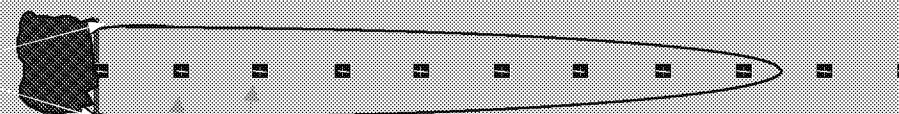
Modeled Area Length*	1700	(ft)
Modeled Area Width*	180	(ft)
Simulation Time*	177	(yr)



6. SOURCE DATA

Source Thickness	10	(ft)
------------------	----	------

Source	
Width (ft)	Conc.(mg/L)
180	0.37



☐ Exponentially Decaying Conc.

View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Concentration (mg/L)	.37											.013
Dist. from Source (ft)	0	170	340	510	680	850	1020	1190	1360	1530	1700	

8. CHOOSE TYPE OF OUTPUT TO SEE:

**RUN
CENTERLINE**

**RUN
PLUME**

View Centerline

View Plume

View BIOSCREEN

Recalculate This Sheet

Paste Example Dataset

Paste Dataset from BIOSCREEN

Restore Formulas for Vs,
Dispersivities, R, lambda, other

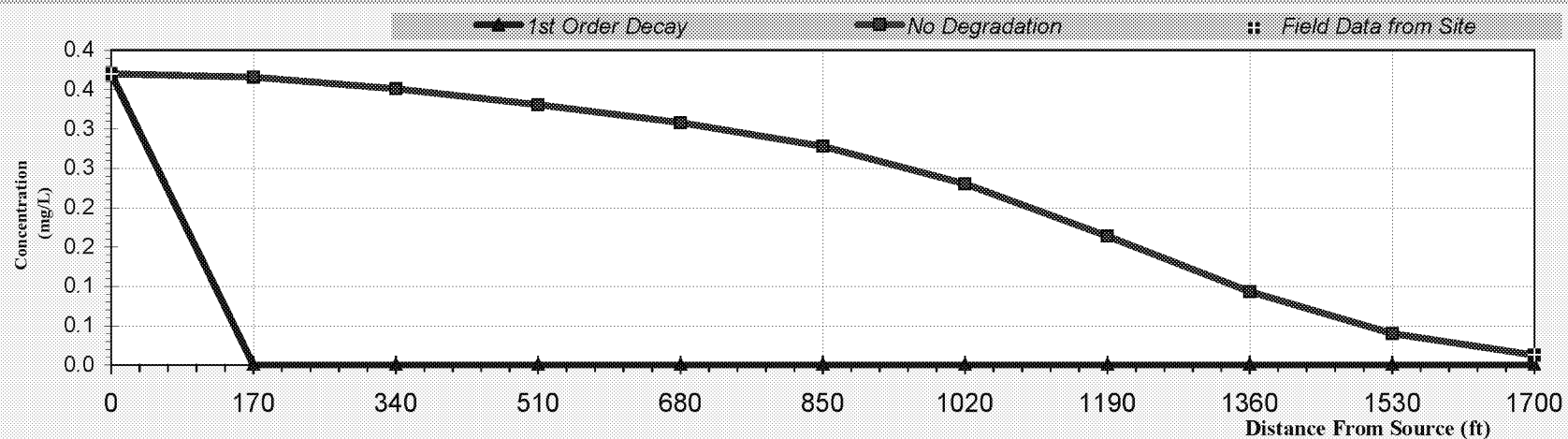
DISSOLVED HYDROCARBON CONCENTRATIONS IN PLUME (mg/L at Z=0)

	Distance from Source (ft)										
	0	170	340	510	680	850	1020	1190	1360	1530	1700
No Degradation	0.370	0.366	0.351	0.331	0.308	0.278	0.230	0.164	0.093	0.040	0.013
1st Order Decay	0.370	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site	0.370										0.013

Time=177 years

Return to Input

View Plume Output



APPENDIX I

HISTORIC SOURCE REMOVAL AND REMEDIATION ACTIVITIES

Enhanced Fluid Recovery

From July 1999 through January 2002, enhanced fluid recovery (EFR) was performed approximately monthly with a vacuum truck as an interim remedial action due to elevated concentrations of MTBE identified in D-1. EFR was also performed briefly at wells MW-20, MW-A5, and MW-A6. During the EFR activities, a total of approximately 17,391 gallons of hydrocarbon-impacted groundwater was removed from the Site. EFR activities were discontinued after D-1 was abandoned in January 2002. A summary of historical EFR events is presented in Table 5.

Source Removal and Excavation

The source of the discharge has been removed and replaced. On February 7, 2002, four 10,000-gallon, double-walled fiberglass USTs and their associated subsurface product piping and dispensers were removed from the Site. On February 14, 2002, one 20,000-gallon, and one split 24,000-gallon (two 12,000-gallon chambers), Xerxes double-walled fiberglass USTs were installed at the southern end of the Site. New double-contained fiberglass product piping was installed from the USTs to four new dispenser islands, and under-dispenser containment sumps were installed below the new dispensers. A new clarifier was installed on-Site for use with the new carwash facility.

Extensive excavation and trenching was performed at the Site during installation of the new USTs (new tankpit located at the southern perimeter of the Site), dispensers, subsurface product and electrical piping, and new canopy footings. Additionally, the footprint of the new station building, dispenser islands, and carwash were excavated a minimum of two feet and re-compacted with clean imported soil. During preparation of the former tankpit for backfilling, approximately 200 tons of soil and pea gravel was removed from the bottom of the tankpit. Soil excavated from the bottom of the former tankpit emitted volatile organic compounds (VOC) concentrations in excess of 1,000 ppmV as measured in the field with a hand held photo-ionization detector (PID).

A new tankpit was excavated at the southern end of the Site. Soil excavated at the northeastern corner of the new tankpit was visibly stained (grayish) and impacted with petroleum hydrocarbons, likely associated with the former dispensers. The new tankpit was excavated to a total depth of approximately 18 feet bgs. Soil encountered from 15 to 18 feet bgs was stained a greenish color, and emitted VOC concentrations above 50 ppmV. Due to the encountered hydrocarbon contamination, the majority of soil generated from the new tankpit excavation was hauled off Site for disposal. A total of approximately 1,500 tons of soil were excavated from the new tankpit, of which approximately 500 tons, primarily from the upper half of the western end of the tankpit, were re-used on-Site as backfill material for the former tankpit.

During the station renovation activities, a limited remedial over-excavation of hydrocarbon-impacted soil was performed at the eastern end of the former middle dispenser island. A five by five foot wide excavation was completed to a depth of five feet bgs to remove hydrocarbon-impacted soil identified in dispenser sample D-6-2'.

A total of approximately 2,115 tons of petroleum hydrocarbon-impacted soil was removed from the Site during the Site demolition and renovation activities and transported to TPS Technologies Soil Recycling (TPS) in Adelanto, California for disposal/recycling (SECOR, 2002).

AS/SVE Remedial System Operation Summary

During the First Quarter 2004, SECOR finalized installation of an AS/SVE remedial system at the Site. The system consists of a Paragon Systems ET-250 oxidizer connected to six dual-nested SVE wells (SVE-1 through SVE-5, and MW-A7). An Ingersoll-Rand rotary screw air compressor is connected to five AS wells (AS-1 through AS-5). SVE operational summary data is included in Tables 6 and 7.

The SVE system was started on April 7, 2004, and samples were collected from each individual well, and from the influent and effluent vapor stream to the thermal oxidizer. Undiluted vapor analytical results in the process stream at startup were identified as follows: GRO – 8,400 ppmV, benzene – 92 ppmV, and MTBE - <27 ppmV. Vapor analytical results from the SVE system process stream and from individual wells are summarized in Tables 8 and 9, respectively.

After sampling, the system was shut down. Effluent vapor samples were analyzed on 24-hour turnaround to ensure the system was destroying vapors to within the South Coast Air Quality Management District (SCAQMD) required benzene limit of 0.24 ppmV. Benzene was detected in the effluent stream at 0.19 ppmV, just below the SCAQMD limit.

The SVE system was restarted on April 13, 2004, the dilution valve was opened 100%, effluent samples were collected, and the system was shut down. Analytical results were <0.059 ppmV for benzene.

On April 16, 2004, the SVE system was started and left to continually operate. Samples were collected weekly for the first month to ensure the oxidizer was capable of destroying hydrocarbon vapors to within the SCAQMD benzene requirement.

From system start-up through September 23, 2004 vapors were extracted from the shallow zone intervals of AS/SVE-1, AS/SVE-2, AS/SVE-3, AS/SVE-4, AS/SVE-5, and MW-A7. All wells used for SVE are dual nested. On September 23, 2004, the shallow zone wells were closed and the deeper zone wells were opened due to decreasing hydrocarbon vapor concentrations to the thermal oxidizer.

During the First Quarter 2005, the AS wells were developed with a vacuum truck to remove accumulated sediment. Before commencing startup of the AS system, a one day step and steady rate AS test will be conducted to determine the required breakthrough pressures and an estimated radius of influence for AS.

In March 2005, the Paragon system was converted to catalytic mode due to steadily decreasing influent vapor concentrations.

On April 14, 2005, the SVE system was shut down due to expiration of the various locations SCAQMD PTO. A site-specific PTO application was submitted to the SCAQMD and SECOR received the site-specific PTO during the Third Quarter 2005.

On October 4, 2005 the Paragon SVE system was re-started in catalytic mode and continued operation into the beginning of the First Quarter, 2006. On January 17, 2006, SECOR initiated the startup of the system and performed confirmation sampling for system discharge monitoring. The system was shut off this same day (Jan. 17, 2006) due to problems with the system optimization. The system remained off until May 9, 2006.

The system was shut down on June 12, 2006 for repair of the air sparge compressor. The system remained off until the installation of a catalytic unit on September 8, 2006.

The system was shut down again on May 31, 2007 to acquire a new permit from the AQMD, and to install a new catalytic oxidizer.

Current Operational Status

On September 8, 2006, SECOR initiated the startup of the system and performed confirmation sampling for system discharge monitoring. The system operation was changed from Thermal to Catalytic and a new catalyst for the SVE system was also installed. The system pulled fresh air from September 8, 2006 to September 19, 2006 to insure the system was in compliance with SCAQMD regulations. On September 19, 2006 the SVE system was connected to the well heads to begin pulling vapors.

The SVE system could not meet the effluent limits 2.4 ppmV given in the new AQMD permit and was shut down on November 21, 2006. The previous Thermal/Catalytic SVE system was converted to a carbon system during the First Quarter of 2007 with two carbon vessels each containing 1,000 pounds of carbon. The new SVE Carbon system was started May 8, 2007 and after testing with fresh air for approximately one-half hour the system was connected to well heads and started pulling vapors. The effluent sample taken to verify compliance with the AQMD effluent limit of 2.5 ppmV on May 8, 2007 was in compliance. The system operated till May 30, 2007, when the mid point field PID readings exceeded the AQMD limit of 2.5 ppmV and though the effluent PID reading was within the permit limits the system was shut down, and subsequently removed on July 30, 2007. SECOR discussed the effluent limit compliance and equipment limitations with Mr. Amir Dejbakhsh of the AQMD. Upon review of the issues AQMD has agreed to allow the SVE unit to operate on a limited schedule with higher effluent limits. A catalytic oxidizer capable of processing up to 100 scfm was proposed for the Site. The operation of the unit is expected to be limited to two weeks per month with a maximum effluent limit of 30 ppmV for volatile organic compounds (VOC) to comply with the AQMD emissions requirements for the Site. On July 17, 2007 SECOR submitted the new application to the AQMD for review and issuance of the permit under the modified conditions. Once the new Site specific permit is issued by the AQMD the system will be started.

As of the last day of operation of the previous Thermal/Catalytic SVE system on November 21, 2006, approximately 50,283 pounds of GRO has been destroyed by vapor extraction. Vapor samples collected on November 8, 2006 identified GRO, benzene and MTBE concentrations of 1,500 ppmV, less than 1.2 ppmV, and less than 2.8 ppmV, respectively, in the un-diluted process stream. The vapor samples collected on May 8, 2007 identified GRO, benzene and MTBE concentrations of 43 ppmV, 0.28 ppmV, and 0.19 ppmV, respectively, in the inlet stream (Table 8).

As of the last day of operation of the new SVE carbon system on May 30, 2007, approximately 50,303 pounds of GRO has been removed by vapor extraction (Table 6 and Table 7). From the startup of the new SVE Carbon system on May 8, 2007 through its shutdown on May 30, 2007, 20 pounds of GRO were removed. The Individual SVE well monitoring data collected in the field is summarized in Table 10a and 10b. Air sparge well data is summarized in Table 11. Daily operational logs are included in Table 12.

Proposed Supplemental Remediation

In the First Quarter of 2007 SECOR proposed supplement remedial efforts at the Site by utilizing oxygen diffusion technology in selected wells off-site and on-site. Off-site wells MW-A2 and MW-A5 were selected as suitable for the installation of slow oxygen releasing compounds ORC™. This process requires minimal maintenance and suited for the wells that are located on the street, where access to the wells would require traffic control. The proposed oxygen releasing material ORC releases oxygen up to a year and stimulates the growth of naturally occurring microbes to rapidly degrade a wide range of aerobically degradable contaminants including the gasoline range organics and the oxygenates found at the Site.

On-site wells MW-20, MW-A4, MW-A3 and possibly MW-19 are suited for the installation of Oxygen diffusers. The Oxygen diffusion technology currently being used is iSOC™ which utilizes specially designed passive membrane oxygen diffusers installed in the wells slightly above the bottom of the wells in the phreatic zone. SECOR's experience with oxygen diffusion used on similar sites show significant

reduction in both GRO and MTBE concentrations in the vicinity of the wells. SECOR anticipates the installation of these supplemental remedial technologies in the next quarter based upon LARWQCB approval of the methodology. Based on the results of the initial phase, the technology can be expanded to other wells.

APPENDIX J

CONCLUSIONS

Proposed Additional Groundwater Monitoring Well Installation

In 2005-Q3 SCMU SECOR proposed to install MW-A8 and possibly MW-A9, to further delineate the down-gradient extent of dissolved-phase hydrocarbons, based on increased concentrations identified in down-gradient wells MW-A2 and MW-A5. On October 12, 2005, SECOR installed off-Site dual nested MW-A8 to further delineate the down-gradient extent of the dissolved-phase hydrocarbons. On January 31, 2006 MW-A8s and MW-A8d were sampled and the analytical was included in the First Quarter 2006 report. SECOR has yet to determine the necessity of an additional groundwater monitoring well (MW-A9).

DATA GAPS

No significant data gaps currently exist with regard to the Site.

APPENDIX K

STANDARD LIMITATIONS

All work was performed under the supervision of a registered geologist as defined in the Registered Geologist Act of the California Code of Regulations. The information contained in this report represents our professional opinions, and is based in part on information supplied by the client. These opinions are based on currently available information and are arrived at in accordance with currently accepted hydrogeologic and engineering practices at this time and location. Other than this, no warranty is implied or intended.

APPENDIX L

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APPENDIX M

AGENCY CORRESPONDENCE



Winston H. Hickox
Secretary for
Environmental
Protection

California Regional Water Quality Control Board Los Angeles Region

Over 50 Years Serving Coastal Los Angeles and Ventura Counties

Recipient of the 2001 Environmental Leadership Award from Keep California Beautiful

320 W. 4th Street, Suite 200, Los Angeles, California 90013

Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>

Gray Davis
Governor

February 28, 2003

Mr. Ralph Moran
ARCO Products Company
P.O. Box 5077
Buena Park, CA 90622

IMPLEMENTATION OF FINAL DRAFT GUIDELINES FOR INVESTIGATION AND CLEANUP OF MTBE AND OTHER OXYGENATES: 1. DEVELOPMENT OF PRELIMINARY SITE CONCEPTUAL MODEL; 2. INTERIM REMEDIAL ACTION REPORT; 3. SITE CHARACTERIZATION REPORT; 4. FINAL REMEDIAL ACTION PLAN; AND 5. PERIODIC PROGRESS, UPDATE, AND MONITORING REPORTS.

ARCO #5110

5731 FIRESTONE BOULEVARD, SOUTH GATE (FILE NO. I-12074) (Priority B2)

Dear Mr. Moran:

BACKGROUND

Methyl tertiary butyl ether (MTBE) has been used as an octane booster in the United States since the late 1970's and added to gasoline to comply with Clean Air Act mandates since 1979. The use of MTBE increased dramatically in the early 1990's as a result of Clean Air Act Amendment requirements for reformulated gasoline. Although MTBE in gasoline helps lessen air pollution, it has become a significant contaminant in groundwater. Relative to other fuel hydrocarbons, MTBE has a high solubility in water, a low retardation rate in groundwater aquifers, and is slow to biodegrade. These properties, combined with its high percentage in gasoline (11% to 15%), cause the potential for high source area concentrations, long plumes in groundwater, and long residence times in the subsurface environment. MTBE also has taste and odor characteristics that can impair water quality at very low concentrations. There have been impacts on drinking water wells at dozens of sites throughout California. Most notably, in the greater Los Angeles area, within the Charnock Sub-Basin, a primary local source of drinking water for the City of Santa Monica and the Southern California Water Company.

Governor Davis issued Executive Order D-5-99 on March 25, 1999, and signed Senate Bill 989 on October 8, 1999. These documents recognize that if not managed properly, MTBE can cause significant adverse impacts to current and future beneficial uses of ground and surface waters. As a result, Final Draft Guidelines for Investigation and Cleanup of MTBE and Other Oxygenates (Final Draft Guidelines) have been developed by the State Water Resources Control Board, Division of Clean Water Programs-Underground Storage Tank Program. The Final Draft Guidelines (copy attached) are intended to assist managers and staff at state and local regulatory agencies with the task of overseeing the investigation and cleanup of sites where there have been or may have been releases of MTBE-laden petroleum fuels or other oxygenates [i.e., tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), methanol (MeOH), and ethanol (EtOH)]. The Final Draft Guidelines provide definitions for areas that are most vulnerable to groundwater

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contamination, provide a priority ranking scheme for oxygenate release sites, outline a decision making framework for determining appropriate actions, and propose a timeframe for completing site management milestones.

The Final Draft Guidelines provide a framework for prioritizing resources to work on sites with MTBE or other fuel oxygenate contamination. A complete description of the seven-step process is contained within the Final Draft Guidelines (Pages 6 through 11). The Los Angeles Regional Water Quality Control Board (LARWQCB) is conservatively interpreting the Final Draft Guidelines, which will result in certain Underground Storage Tank (UST) leak cases being included within higher priorities for investigation and cleanup. During March 2001, the LARWQCB issued directive letters to all sites identified with investigation and cleanup priority of A1 [i.e., all sites less than 1,000 feet to a receptor, sites less than 3,000 feet to a receptor that have failed to provide required test results for MTBE and other fuel oxygenates, selected free product sites, and sites in close proximity to sensitive receptors (e.g., schools)]. In January 2002, the LARWQCB issued directive letters to all sites identified with investigation and cleanup priority of B1 [i.e., all sites greater than 1,000 feet and less than 3,000 feet from a receptor, selected free product sites, sites in close proximity to sensitive receptors, and/or sites containing high concentrations of oxygenates]. Now, we have reviewed the information contained in the case file for this site and have assigned an initial investigation and cleanup priority of B2 to this site [i.e., all sites greater than 1,000 feet and less than 3,000 feet from a receptor, with or without MTBE/oxygenates detection].

IMPLEMENTATION OF FINAL DRAFT GUIDELINES

Step 1: Initial Investigation/Scoping

In accordance with Step 1 (Initial Investigation/Scoping), we have reviewed the information contained in the UST case file for the site, including the most recent technical report entitled "Atlantic Richfield Company Quarterly Report" dated Quarter 4, 2002, prepared by SECOR. Based upon our review and evaluation, we find that groundwater beneath the subject site is impacted by petroleum hydrocarbons and/or the gasoline additive MTBE released from UST systems. The site is located within an area determined to be vulnerable to groundwater contamination, as defined in the Final Draft Guidelines. The site overlies an aquifer used as a community water supply and the distance to the closest municipal or domestic supply well (No. 02S12W31Q02S) is approximately 1,825 feet from the site. Based upon this information we have assigned an Initial Investigation Priority Class B2 to the site. You have been identified as the responsible party for the site and, as such, are directed to perform the following corrective action steps:

1. Develop a Preliminary Site Conceptual Model;
2. Develop a technical report detailing the results of all soil and groundwater assessment completed and submit a workplan to complete any remaining soil and/or groundwater investigations necessary to fully define the lateral and vertical extent of any free product or dissolved petroleum hydrocarbon plume(s), to include MTBE or other fuel oxygenate contamination onsite and offsite;

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3. Develop a technical report detailing the results of any corrective actions completed and submit a workplan to perform any interim cleanup necessary to contain or control the spread or migration of any residual contamination;
4. Complete an evaluation to estimate plume travel time;
5. Determine a final cleanup remedy;
6. Perform quarterly groundwater monitoring and provide updates to the Site Conceptual Model; and
7. Perform a verification-monitoring program.

All steps are to be developed and performed on an expedited schedule to reduce any adverse impacts to water quality resulting from UST system leaks that have resulted at the site.

Step 2: Develop Preliminary Site Conceptual Model/Assign Investigation Priority Classification

Develop a Preliminary Site Conceptual Model (PSCM) Report consistent with the Final Draft Guidelines-Appendix C (Page 15). As stated above, we have already assigned an Initial Investigation Priority Class B to the site. Under this Initial Investigation Priority and for the purpose of developing the PSCM, the travel time to the nearest production well/receptor is conservatively estimated to be greater than one year and less than 3 years. The technical report (Preliminary Site Conceptual Model) containing the results of this evaluation shall be submitted to this Regional Board by **July 15, 2003**.

The PSCM must incorporate, at a minimum; all the components listed under Appendix C of the "Final Draft Guidelines for Investigation and Cleanup of MTBE and Other Oxygenates" dated March 27, 2000. The PSCM should provide a detailed written and graphical representation of the release scenario, site characteristics (geology, hydrogeology, isoconcentration contour maps for TPH, benzene and MTBE etc.) and the likely distribution of chemicals at the site. It should also identify all pathways for impact to potential receptors from potential sources through transport of chemicals in air, soil and water. The information contained within the PSCM for site assessment activities is critical in making determinations on the extent of assessment completed and whether any additional hydrogeologic assessment work is necessary at the site.

If the Site Characterization Report indicates that additional soil borings or groundwater monitoring wells are needed to fully define the extent of soil and/or groundwater contamination, then a workplan to complete any remaining assessment must be incorporated into your revised PSCM. The same type of evaluation is required for any cleanup action taken to date or needed to implement a final cleanup plan at the site. Technical reports previously submitted to the Regional Board detailing the results of any soil and/or groundwater assessment, periodic monitoring, or cleanup do not have to be resubmitted. However, you need to repackage the information, so that the PSCM is a complete stand-alone document. Periodic updates to the PSCM are required on a quarterly basis as required in Step 5 below and as defined in Step 5 of the Final Draft Guidelines.

Step 3: Interim Remedial Action

Develop an Interim Remedial Action (IRA) Report detailing the results of any cleanup actions completed to date. At a minimum, the site IRA should:

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1. Provide documentation that all existing UST systems operating do not have any ongoing releases. Use the Final Draft Guidelines, Appendix D (Finding Leaks in Tank Systems) as a guide for completing this evaluation;
2. Provide realistic estimates of the total volume(s) of fuels released;
3. Identify all method(s) used for cleanup of petroleum hydrocarbon fuel contamination (i.e., excavation, free product removal, vapor extraction, pump and treat, etc.). Identify any active cleanup systems in place, operational or not, together with complete details on system design, operation status, and cleanup effectiveness;
4. Provide the total mass in pounds for total petroleum hydrocarbon gasoline fuels (TPH_G), total petroleum hydrocarbon diesel fuels (TPH_D), benzene, toluene, ethylbenzene, and xylenes (BTEX), MTBE, and other fuel oxygenates removed from the subsurface from all cleanup operations employed to date; and
5. Identify the IRA that should be implemented to further reduce the residual mass of petroleum hydrocarbon fuels, BTEX compounds, MTBE, and other oxygenates in soil, groundwater and/or vapor phase beneath the site. The IRA should be compatible with and developed into a final remedial action plan for the site.

The technical report (Interim Remedial Action) containing the results of the IRA evaluation together with a detailed workplan to conduct any interim remedial action measures necessary to control or contain the spread of residual contamination shall be submitted to this Regional Board by **July 15, 2003**.

Step 4: Site Characterization/Determine Plume Travel Time

Develop a comprehensive Site Characterization (SC) Report detailing the results of all soil and groundwater assessments completed at the site. At a minimum, the report should include:

1. Site maps depicting the locations of all soil samples, soil test borings, groundwater monitoring wells, vapor extraction, or air sparging wells;
2. A detailed location map of the area surrounding the site to include streets, property locations and land uses (i.e., residential, commercial or industrial with site name, etc.) 250 feet upgradient, 250 feet lateral to the direction of groundwater flow, and a minimum of 500 feet downgradient of any identified contamination plume(s);
3. Soil boring logs and well drilling logs from prior work;
4. Develop scaled lithologic cross sections for the site based upon the existing soil and groundwater data/information. A minimum of three cross sections shall be developed from soil sampling programs and from the installation of groundwater monitoring wells and/or vapor wells. Cross sections shall provide the lithologic column with Unified Soil Classification System abbreviations and symbols;
5. Scaled groundwater contour maps depicting the direction of groundwater flow and gradient across the subject site. If the groundwater flow direction fluctuates over time, then historical groundwater contour maps reflecting these changes shall be provided;
6. Groundwater contaminant plume maps for TPH_G, TPH_D, BTEX, MTBE, and for all fuel oxygenates detected shall be illustrated in plan view and contain constituent concentrations;
7. A tabular summary showing: monitoring well identification number, monitoring well screened and blank intervals, completion depths, survey elevations, survey reference point, slot size(s), annular seal interval, water elevation ranges, and free product thickness, if any; and

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8. A tabular data summary showing all historical soil and groundwater chemical and physical data to date.

The technical report (Site Characterization Report) detailing the results of all soil and groundwater assessments completed together with a workplan to conduct any supplemental hydrogeologic assessment needed to fully define the extent of any remaining free product and/or dissolved petroleum hydrocarbons, including oxygenates, to non-detect levels, shall be submitted to this Regional Board by **July 15, 2003**.

Determine Plume Travel Time

Acceptable methods that can be used to estimate plume travel time to reach a receptor should include the application of mainstream or industry-recognized fate and transport analytical models (e.g., Domenico Analytical Solution, 1987; Finite-Mass Advection/Dispersion Analytical Model by Fried, 1975; Freeze and Cherry 1975; and Bear 1972). Alternatively, advection/dispersion analytical models in Excel format developed by Regional Board staff may also be used (applicable to cases with a one-time release or continuous source release) and are available on our website (<http://www.swrcb.ca.gov/rwqcb4> under LARWQCB Programs – UST - Models). Extensive or detailed modeling effort is not required nor is that the objective of this phase of the investigation. However, the analytical model used should be calibrated with available site-specific data, using conservative assumptions for mass released, source area, source concentration, groundwater velocity, groundwater direction (constant), dispersivities, decay rate, etc. Available site-specific data on geology or hydrogeology may be quite useful in this regard. For example, groundwater site characterization evaluation, type of soil and aquifer materials, and uninterrupted vertical profile of site stratigraphy may be used together to make conservative estimates of groundwater velocity. A technical report (as an integral part of the Site Conceptual Model Report) on this phase of the investigation shall, at a minimum include:

1. Detailed documentation of the analytical model used, including its limitations, conditions, and assumptions;
2. Detailed descriptions and layouts of the process used to arrive at the model conclusions and justification for the model assumptions applied, including literature sources;
3. Detailed and extensive discussions on model conclusions;
4. Recommendations on any additional site work that can reduce model uncertainties and further refine the Site Conceptual Model;
5. Any site- or region-specific data applied during the modeling process, including hydrogeologic data and historical soil and groundwater analytical data to date (if applicable); and
6. Any information on atypical site-specific conditions that may cause solutions to the analytical model to be unrealistic or less-conservative, such as:
 - a. Whether the site is near an area with aggressive pumping (characteristic of municipal or drinking water wells) which can alter the natural flow of water and thus affect the direction of groundwater flow and velocity;
 - b. The presence of heterogeneous aquifer materials that may cause contaminants to travel at greater velocities than the flow pathway applied for the analytical model (e.g. the existence of fractured rock and limestone caverns);

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- c. The existence of conduits and geologic faults, and
- d. Multiple or continuous releases; and releases from different locations, that can create multiple sources or cause increases in contaminant source concentrations.

The technical report containing an evaluation to estimate Plume Travel Time, in accordance with the guidance provided above, shall be submitted to this Regional Board by **October 15, 2003**.

Step 5: Update Site Conceptual Model/Assign Cleanup Priority Classification

Update Site Conceptual Model

This step provides for the update to the PSCM on a periodic basis, to incorporate any new and/or updated information or data (i.e., results of any additional assessment and/or any remedial activities completed during the reporting period, a complete discussion of current site conditions, a complete discussion and trend analysis on analytical groundwater data, and provide a technical Workplan for additional assessment and/or cleanup as determined by a review and evaluation of historical and current data, etc.). Quarterly technical reports shall be submitted to update the PSCM developed as part of Step 2. The SCM validation process shall be initiated starting with the quarter after the PSCM is established. The first update to the PSCM is due to this Regional Board by **October 15, 2003**, for the July through September 2003 quarter. The Site Conceptual Model Update is a stand-alone document that provides a complete update to the PSCM. The Site Conceptual Model Update must contain all the components that are currently required in the Quarterly Groundwater Monitoring Reports, therefore, a separate Quarterly Groundwater Monitoring Report is not required.

Step 6: Corrective Action/Remediation

The need for performing active cleanup may vary based upon many factors (e.g., release history, mass released into the environment, hot spot areas, site specific and regional geology, and interim cleanup actions implemented, etc.). As stated above in Step 3, a technical report containing the results of the IRA evaluation together with a workplan to conduct any interim remedial action necessary to control or contain the spread of residual contamination at the subject site shall be submitted to this Regional Board by **July 15, 2003**. In order to reduce any ongoing threat to water quality and potential impacts to nearby sensitive receptors from UST releases, a technical report containing a Final RAP, together with a time schedule for implementation shall be developed and submitted to this Regional Board by **January 15, 2004**.

Step 7: Verification Monitoring

Verification monitoring is an integral part of performing interim and final cleanup remedies at UST release sites. These monitoring programs will be necessary in order to determine whether any interim and/or final RAP implemented has achieved its intended purpose and will be required for all sites to determine the effectiveness of remedial actions implemented. The nature and scope of the verification-monitoring program shall be determined subsequent to

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completing full implementation of the RAP and shall be approved by this Regional Board prior to implementation.

LANDOWNER OR IMPACTED SITE NOTIFICATION REQUIREMENTS

Additionally, pursuant to recent changes of the California Health and Safety Code (section 25299.37.2) and Division 7 of the Porter Cologne Water Quality Control Act under Assembly Bill 681, this Regional Board is required to notify all current fee title holders of record for the site or sites impacted by releases from underground storage tanks prior to considering corrective action and cleanup or case closure.

If site assessment and/or monitoring data provided for corrective action work ongoing at the site indicate that release(s) from the underground storage tank systems have impacted offsite property(ies), then please provide the name, mailing address, and phone number for all record fee title holders for the site and any offsite property(ies) impacted by releases from the subject site, together with a copy of the county record of current ownership (grant deed or deed of trust), available from the County Recorder's Office, for each property affected, or by completing this Regional Board's "Certification Declaration for Compliance with Fee Title Holder Notification Requirements," (copy attached) for each site. **If this information has been provided in the past, then you need not provide it again.** Copies of all technical reports required above together with any periodic updates are to be sent directly to the property owner of the site and to any other property owner(s) impacted by UST releases from the site. The cover letter transmitting your technical reports to this Regional Board shall state that the technical reports were sent directly to all property owner(s) of the site as well as any offsite property owner impacted by the UST release(s). The cover letter shall provide a list of all property owners sent technical reports and the date the technical reports were sent.

NEW REGULATORY REQUIREMENT FOR ELECTRONIC SUBMISSION OF LABORATORY DATA TO THE STATE GEOTRACKER INTERNET DATABASE

On June 28, 2001, the State Water Resources Control Board-Underground Storage Tank Program manager, Mrs. Liz Haven, sent you a letter informing you of the new requirements for submission of electronic laboratory data for Underground Storage Tank Program reports. These requirements are contained in emergency regulations (CCR Title 23, Chapter 16, Article 12, Sections 2729 and 2729.1) recently adopted by the State Water Resources Control Board (Board), and became effective September 1, 2001. The Board adopted these regulations to implement Assembly Bill 2886 (Chapter 727, Statutes of 2000, "AB 2886"). The regulations and other background information are available on the Internet by going to <http://geotracker.swrcb.ca.gov> and clicking on "AB 2886". The emergency regulations (Water Code Sections 13195-13198) require persons to ensure electronic submission of laboratory data (i.e. soil or water chemical analysis) and locational data (i.e. location and elevation of groundwater monitoring wells), via the Internet to the SWRCB's GeoTracker database.

In accordance with the above regulations, you are required to submit all future laboratory data over the Internet in the Electronic Deliverable Format to the SWRCB's GeoTracker database for any soil and/or groundwater samples obtained after September 1, 2001. This would include any

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sampling completed for underground storage tank system removal, site assessment activities, periodic groundwater monitoring, and post cleanup verification sampling. In accordance with the above regulations, you are also required to submit locational data for all groundwater monitoring wells (i.e., latitude, longitude, and elevation survey data) together with groundwater information (i.e., elevation, depth to free product, monitoring well status, etc.) and a site map commencing January 1, 2002. Hard copy paper reports are still required.

REPORTING REQUIREMENTS

The Final Draft Guidelines, Appendix B (Technical References) contains a partial listing of documents related to site investigation and remediation that can be used for development of workplans required by this Regional Board. The technical reports shall be submitted to this Regional Board according to the schedule contained in Table 1-Technical Report Type and Due Dates listed below. The technical reports for items: 1-[Preliminary Site Conceptual Model (PSCM) Report]; 2-[Interim Remedial Action (IRA) Report and Workplan]; and 3-[Site Characterization (SC) Report and Workplan] identified in Table 1 below must be submitted as a single stand alone technical report. **Pursuant to section 13267(b) of the California Water Code, failure to submit the required technical report acceptable to the Executive Officer, by the due dates specified, may result in the imposition of civil liability penalties by this Regional Board of up to \$1,000.00 per day for each day each technical report is not received pursuant to section 13268 of the California Water Code. This Regional Board can assess these civil liability penalties at any time after the due dates specified below and without further warning.**

Table 1-Technical Report Type and Due Dates

Technical Report Type ^{1,2,3,4}	Due Dates
1. Preliminary Site Conceptual Model (PSCM) Report (Step 2-Final Draft Guidelines)	July 15, 2003
2. Interim Remedial Action (IRA) Report and Workplan (Step 3-Final Draft Guidelines)	July 15, 2003
3. Site Characterization (SC) Report and Workplan (Step 4-Final Draft Guidelines)	July 15, 2003
4. Estimate of Plume Travel Time (Step 4-Final Draft Guidelines)	October 15, 2003 (Yearly thereafter by October 15)
5. Update Site Conceptual Model (SCM) Reports (Step 5-Final Draft Guidelines)	October 15, 2003 (Quarterly thereafter by the following dates: January 15, April 15, July 15, and October 15)
6. Final Remedial Action Plan (RAP) (Step 6-Final Draft Guidelines)	January 15, 2004
7. Quarterly Monitoring and Progress Reports ⁵	October 15, 2003 (Quarterly thereafter by the following dates: January 15, April 15, July 15, and October 15)

¹-At a minimum, all workplans and final reports shall conform to the Guidelines for Report Submittals published by the Los Angeles County Department of Public Works and the California Underground Storage Tank Regulations.

²-All workplans are to contain an appropriate Health and Safety Plan commensurate with the level of work to be completed.

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Mr. Moran
ARCO #5110

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February 28, 2003

³-All analytical testing and sampling shall conform to the Leaking Underground Storage Tanks Program-Update Laboratory Testing Requirements, dated June 22, 2000.

⁴-All technical reports shall be prepared by or under the direction of a registered geologist, certified engineering geologist, or registered civil engineer with appropriate experience.

⁵-Quarterly Groundwater Monitoring and Progress Reports are to be included as part of the Site Conceptual Model Updates.

If you have any questions or need additional information, please call Ms. Heesu Park at (213) 576-6705, or Mr. Gregg Kwey at (213) 576-6702.

Sincerely,

Original Signed by

Dennis A. Dickerson
Executive Officer

Enclosures:

1. Final Draft Guidelines for Investigation and Cleanup of MTBE and Other Oxygenates (March 27, 2000)
2. Guidelines for Report Submittals published by the Los Angeles County Department of Public Works (June 1993)
3. Leaking Underground Storage Tanks Program-Update Laboratory Testing Requirements (June 22, 2000)
4. Leaking Underground Storage Tank Program Certification Declaration for Compliance with Fee Title Holder Notification Requirements

Cc: Robert Sams, Office of Chief Counsel, State Water Resources Control Board
Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board
Hari Patel, State Water Resources Control Board, UST Cleanup Fund
Tim Smith, Los Angeles County DPW, Environmental Programs Division
Bruce Mowry, Water Replenishment District of Southern California
Gareth Roberts, SECOR

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Secretary for
Environmental
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Gray Davis
Governor

August 27, 2003

Mr. Ralph Moran
Atlantic Richfield Company
4 Centerpointe Drive
La Palma, CA 90623

IMPLEMENTATION OF FINAL DRAFT GUIDELINES FOR INVESTIGATION AND CLEANUP OF MTBE AND OTHER OXYGENATES: 1. DEVELOPMENT OF PRELIMINARY SITE CONCEPTUAL MODEL; 2. INTERIM REMEDIAL ACTION REPORT; 3. SITE CHARACTERIZATION REPORT; 4. FINAL REMEDIAL ACTION PLAN; AND 5. PERIODIC PROGRESS, UPDATE, AND MONITORING REPORTS.

ARCO #5110

5731 FIRESTONE BOULEVARD, SOUTH GATE (FILE NO. I-12074) (Priority B2)

Dear Mr. Moran:

We have reviewed your "Remedial Action Plan," dated June 25, 2003, and "Preliminary Site Conceptual Model", dated July 15, 2003, prepared by your consultant, SECOR International, Inc., for the subject site. We would like to acknowledge the overall good job in putting together the Preliminary Site Conceptual Model in accordance with the Appendix C requirements contained within the Final Draft MTBE Guidelines and the workplan submitted for supplemental site assessment and an expanded cleanup program. As we are implementing this new and more comprehensive approach managing high priority leaking underground storage tank cases, we feel strongly that in the end, it will reduce future impacts to water quality, provide for increased protection of sensitive receptors, and reduce the overall cost and time in performing assessment and cleanup activities.

In reference to the above documents, we have the following comments:

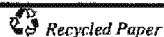
I. Corrective Action

Based on the historical Soil Vapor Extraction (SVE) testing and subsurface lithology and hydrogeology, Air Sparging (AS)/SVE is proposed to remove adsorbed-phase hydrocarbons from the former tankpit and dispenser areas and reduce dissolved-phase hydrocarbons. Your consultant proposes installing five AS/SVE wells to implement the remedial system. We concur with your workplan provided the following requirements are met:

1. As already indicated, you are required to submit a Final Remedial Action Plan detailing the results of the interim corrective action and workplan for additional remedial action to this

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Regional Board by **January 15, 2004**. This report must contain a scaled site-plan map with construction diagram for the existing soil vapor extraction and air sparging wells, and cross section profiles showing these wells, contamination plume, and lithological information. At a minimum, the following parameters must be included in your technical report:

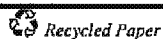
- Scaled map showing the location of all wells and detailed layout of remediation system (i.e., piping and treatment system).
 - Vapor flow rate.
 - Pressure (or vacuum).
 - Hours of system operation.
 - Laboratory test results (in $\mu\text{g/L}$) including QA/QC data.
 - Tabular and graphical summaries of contaminants removed versus time.
 - Contamination mass removal rates and cumulative mass removed.
 - Influent concentrations and concentrations at each vapor extraction well.
2. The undiluted soil vapor samples must be analyzed monthly for total petroleum hydrocarbons in gasoline (TPHg) using EPA Method 8015(M); for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME) and tertiary butyl alcohol (TBA) using EPA Method 8260B; and for oxygen and carbon dioxide content.

II. General

1. All necessary permits must be obtained from the appropriate agencies prior to the start of work.
2. All work must be performed by or under the direction of a registered geologist, certified engineering geologist, or registered civil engineer. A statement is required in the report that the registered professional in direct responsible charge actually supervised or personally conducted all the work associated with the project. All technical submittals must contain a wet ink signature and seal by one of the registered professionals.
3. All reports must conform to the "Guidelines for Report Submittals" published by the Los Angeles County Department of Public Works.
4. Please notify Ms. Heesu Park at least seven (7) days prior to the start of field work, so she can schedule to be present.
5. Copies of all technical reports are to be sent directly to the fee title holder of the site and to any other property owner(s) impacted by the underground storage tank (UST) releases from the site. The cover letter transmitting your technical reports to this Regional Board shall state that the technical reports were sent directly to all the fee title holder of the site as well as any offsite property owner impacted by the UST release(s). The cover letter shall provide

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a list of all property owners sent technical reports and the date the technical reports were sent.

III. Site Conceptual Model (SCM) Update

In order to implement the final remediation of the petroleum hydrocarbon plume associated with the above referenced site, the Preliminary Site Conceptual Model must be updated on a quarterly basis. You are required to submit the next Site Conceptual Model Update by **October 15, 2003**. Subsequent Site Conceptual Model Updates are to be submitted according to the following schedule:

<u>Reporting Period</u>	<u>Report Due Date</u>
January – March	April 15 TH
April – June	July 15 TH
July – September	October 15 TH
October – December	January 15 TH

The Site Conceptual Model Update is a stand-alone document that provides a complete update to the PSCM. The Site Conceptual Model Update must contain all the components that are currently required in the Quarterly Groundwater Monitoring Reports. Therefore, a separate Quarterly Groundwater Monitoring Report is not required. In addition, the Site Conceptual Model Update must contain the results of any additional assessment and/or any remedial activities completed during the reporting period, a complete discussion on current site conditions, a complete discussion and trend analysis on analytical groundwater data, and provide a technical Work Plan for additional assessment and/or cleanup as determined by a review and evaluation of historical and current data. The Site Conceptual Model Update must also contain an annual revision of the Plume Travel Time data. Revised Plume Travel Time data must be submitted with the Site Conceptual Model Update during the April – June reporting period, which is due to the Regional Board by July 15, of each year. Additional revisions to the Plume Travel Time data may be required based on site-specific conditions.

IV. Enforcement

Pursuant to Section 13267(b) of the California Water Code, You are hereby directed to submit the periodic Updates to Site Conceptual Model Report by **October 15, 2003** and the Final Remedial Action Plan by **January 15, 2004**.

Pursuant to Section 13268 of the California Water Code, failure to submit the required technical reports, acceptable to the Executive Officer by the due dates specified above, may result in the imposition of civil liability penalties by this Regional board of up to \$1,000 per day for each day the required technical reports are delinquent from these due dates. After these dates, civil liability penalties can be assessed by the Regional Board and without further warning.

California Environmental Protection Agency

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
For a list of simple ways to reduce demand and cut your energy costs, see the tips at: <http://www.swrcb.ca.gov/news/echallenge.html>



Recycled Paper

Our mission is to preserve and enhance the quality of California's water resources for the benefit of present and future generations.

Mr. Moran
ARCO #5110

- 4 -

August 27, 2003

If you have any questions or need additional information, please call Ms. Heesu Park at (213) 576-6705.

Sincerely,

Original Signed by

Gregg Kwey
Senior Water Resources Control Engineer

Cc: Hari Patel, State Water Resources Control Board, UST Cleanup Fund
Nardy Drew, Los Angeles County DPW, Environmental Programs Division
Bruce Mowry, Water Replenishment District of Southern California
Gareth Roberts, SECOR

California Environmental Protection Agency

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption
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Recycled Paper

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California Regional Water Quality Control Board Los Angeles Region



Terry Tamminen
Secretary for
Environmental
Protection

Over 51 Years Serving Coastal Los Angeles and Ventura Counties
Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful
320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: <http://www.swrcb.ca.gov/rwqcb4>

Arnold Schwarzenegger
Governor

June 15, 2004

To: All Interested Parties

UNDERGROUND STORAGE TANKS PROGRAM – NEW GUIDELINES FOR ELECTRONIC SUBMITTAL OF QUARTERLY GROUNDWATER MONITORING REPORT

Starting on July 1, 2004, all parties who are directed by the Los Angeles Regional Water Quality Control Board's Underground Storage Tank (UST) Program to submit quarterly groundwater monitoring reports (QMRs) will have an option to submit these reports in an electronic format. This option is intended to save resources for both the public and private sectors, as well as to identify potential problems in advance of implementing new regulations (revisions to title 23 and title 27) to submit these reports electronically over the internet to the State Board's Geotracker system. The following guidelines are to be used for submitting the electronic QMRs.

I. Electronic Format

QMR's submitted to the Regional Board contain the following required information at a minimum: 1) cover page, 2) table of contents, 3) project summary 4) signature page, 5) figures and maps [area and site maps, direction of flow, monitoring locations, plume concentrations, free product, etc.], 6) data summary tables, 7) contaminant mass removal summary, if applicable, and 8) other relevant information [e.g., boring logs, analytical laboratory report, chain of custody, waste disposal manifest, health and safety plan, etc]. The electronic QMRs shall be converted into a Portable Deliverable Format (PDF), readable by the *Acrobat Reader (version 6.0)*, and copied onto a CD-ROM for submittal. No duplicate hard copies of the whole report are necessary. However, the cover page, table of contents, text of the report, signature page, data summary tables, and figures in the report shall be still submitted in hard copy along with the CD-ROM, which contains the full report including body of the report, appendices, and attachments. The submittal shall have a secured page or pouch to contain the CD-ROM. The CD-ROM submittal shall contain a CD-ROM case and both CD-ROM and the case shall be labeled with the site address and the monitoring quarter. Submit one hard copy (portion of the report as specified below) and one CD-ROM for each individual report per site.

II. Contents of the Quarterly Groundwater Monitoring Report

The quarterly groundwater monitoring report shall include, but not limited to, the following components:

- 1) Cover page containing the title of the report, address of the site, Regional Board File number, the period of quarterly groundwater monitoring, affiliation that produced the report, and the date of the report (**hard copy and CD**).
- 2) Table of contents and narrative text of the report (**hard copy and CD**).

California Environmental Protection Agency



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- 3) Signature page for whom is responsible for the report (**hard copy and CD**).
- 4) Summary tables of current-quarter and historical monitoring data (**hard copy and CD**).
- 5) Figures (**hard copy and CD**).
- 6) Maps (**on CD**)
- 7) Contaminant mass removal summary, if applicable (**on CD**).
- 8) All attachments containing relevant information (e.g., boring logs, analytical laboratory report, chain of custody, waste disposal manifest, etc.) (**on CD**).

III. Limitations

This guideline is not a substitute of the State Board Electronic Data Format (EDF) submittal to the GeoTracker Database under the requirements of AB2886. The electronic report format discussed in this letter is only pertinent to changing the format of the hard copy reports that have been regularly submitted to this Regional Board, and does not fulfill any and all other requirements. Regional Board staff reserve the right to evaluate the need for the electronic report on a case by case basis.

IV Public Access to the Electronic Report

The Regional Board will make the proper electronic equipment (CD-ROM reader) available in the file review room to facilitate the public access to the information contained in the electronic report on CD. The standard Regional Board File Review procedures are applicable to review the CDs as well.

If you have any questions regarding this matter, please contact Dr. Yue Rong at (213) 576-6710 or at yrong@rb4.swrcb.ca.gov.

Sincerely,

Original signed by

Dennis A. Dickerson
Executive Officer



APPENDIX N

LABORATORY REPORTS AND CHAIN OF CUSTODY

LABORATORY REPORT

Prepared For: SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project: ARCO 5110, Southgate

Sampled: 08/07/07-08/08/07

Received: 08/08/07

Issued: 08/22/07 18:26

NELAP #01108CA California ELAP#1197 CSDLAC #10256

The results listed within this Laboratory Report pertain only to the samples tested in the laboratory. The analyses contained in this report were performed in accordance with the BPGCLN Technical Specifications, applicable federal, state, local regulations and certification requirements as well as the methodologies as described in laboratory SOPs reviewed by the BPGCLN. This Laboratory Report is confidential and is intended for the sole use of TestAmerica and its client. This report shall not be reproduced, except in full, without written permission from TestAmerica. The Chain of Custody, 1 page, is included and is an integral part of this report.

This entire report was reviewed and approved for release.

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 5°C, on ice and with chain of custody documentation.

HOLDING TIMES: All samples were analyzed within prescribed holding times and/or in accordance with the TestAmerica Sample Acceptance Policy unless otherwise noted in the report.

PRESERVATION: Samples requiring preservation were verified prior to sample analysis.

QA/QC CRITERIA: All analyses met method criteria, except as noted in the report with data qualifiers.

COMMENTS: Results that fall between the MDL and RL are 'J' flagged.

SUBCONTRACTED: No analyses were subcontracted to an outside laboratory.

LABORATORY ID

CLIENT ID

MATRIX

IQH0806-01	MW-A1	Water
IQH0806-02	MW-A2	Water
IQH0806-03	MW-A3	Water
IQH0806-04	MW-A4	Water
IQH0806-05	MW-A5	Water
IQH0806-06	MW-A6	Water
IQH0806-07	MW-A7	Water
IQH0806-08	MW-A8S	Water
IQH0806-09	MW-A8D	Water
IQH0806-10	DUP-5110-20070807	Water
IQH0806-11	TB-5110-20070807B	Water

Reviewed By:



TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

VOLATILE FUEL HYDROCARBONS (EPA 5030/8015M)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-01 (MW-A1 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15045	30	50	33	1	08/15/07	08/15/07	J,DX
Surrogate: 4-BFB (FID) (65-140%)					94 %				
Sample ID: IQH0806-02 (MW-A2 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15045	300	500	4300	10	08/15/07	08/15/07	PV
Surrogate: 4-BFB (FID) (65-140%)					81 %				
Sample ID: IQH0806-03 (MW-A3 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15045	150	250	390	5	08/15/07	08/15/07	
Surrogate: 4-BFB (FID) (65-140%)					77 %				
Sample ID: IQH0806-04 (MW-A4 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H18028	3000	5000	20000	100	08/18/07	08/18/07	PV
Surrogate: 4-BFB (FID) (65-140%)					96 %				
Sample ID: IQH0806-05 (MW-A5 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H16045	30	50	160	1	08/16/07	08/16/07	
Surrogate: 4-BFB (FID) (65-140%)					70 %				
Sample ID: IQH0806-06 (MW-A6 - Water)					Sampled: 08/08/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15046	30	50	110	1	08/15/07	08/15/07	
Surrogate: 4-BFB (FID) (65-140%)					87 %				
Sample ID: IQH0806-07 (MW-A7 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15046	3000	5000	15000	100	08/15/07	08/15/07	PV
Surrogate: 4-BFB (FID) (65-140%)					106 %				
Sample ID: IQH0806-08 (MW-A8S - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15046	30	50	220	1	08/15/07	08/15/07	PV
Surrogate: 4-BFB (FID) (65-140%)					71 %				

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQH0806 <Page 2 of 22>

SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

VOLATILE FUEL HYDROCARBONS (EPA 5030/8015M)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-09 (MW-A8D - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15046	30	50	54	1	08/15/07	08/15/07	
Surrogate: 4-BFB (FID) (65-140%)					99 %				
Sample ID: IQH0806-10 (DUP-5110-20070807 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15046	30	50	340	1	08/15/07	08/15/07	
Surrogate: 4-BFB (FID) (65-140%)					71 %				
Sample ID: IQH0806-11 (TB-5110-20070807B - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
GRO (C4 - C12)	EPA 8015B	7H15046	30	50	ND	1	08/15/07	08/15/07	
Surrogate: 4-BFB (FID) (65-140%)					76 %				

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

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SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-01 (MW-A1 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16010	0.28	2.0	2.8	1	08/16/07	08/16/07	J,DX
Ethylbenzene	EPA 8260B	7H16010	0.25	2.0	ND	1	08/16/07	08/16/07	
Toluene	EPA 8260B	7H16010	0.36	2.0	ND	1	08/16/07	08/16/07	
m,p-Xylenes	EPA 8260B	7H16010	0.60	2.0	ND	1	08/16/07	08/16/07	
o-Xylene	EPA 8260B	7H16010	0.30	2.0	ND	1	08/16/07	08/16/07	
Xylenes, Total	EPA 8260B	7H16010	0.90	4.0	ND	1	08/16/07	08/16/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16010	0.25	5.0	1.2	1	08/16/07	08/16/07	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16010	0.28	5.0	ND	1	08/16/07	08/16/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16010	0.33	5.0	ND	1	08/16/07	08/16/07	J,DX
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16010	0.32	5.0	7.7	1	08/16/07	08/16/07	
tert-Butanol (TBA)	EPA 8260B	7H16010	4.9	50	16	1	08/16/07	08/16/07	
Ethanol	EPA 8260B	7H16010	100	150	ND	1	08/16/07	08/16/07	
Surrogate: Dibromofluoromethane (80-120%)					88 %				
Surrogate: Toluene-d8 (80-120%)					98 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					90 %				

Sample ID: IQH0806-02 (MW-A2 - Water)					Sampled: 08/07/07			
Reporting Units: ug/l								
Benzene	EPA 8260B	7H16010	14	100	2300	50	08/16/07	08/16/07
Ethylbenzene	EPA 8260B	7H16010	12	100	ND	50	08/16/07	08/16/07
Toluene	EPA 8260B	7H16010	18	100	ND	50	08/16/07	08/16/07
m,p-Xylenes	EPA 8260B	7H16010	30	100	ND	50	08/16/07	08/16/07
o-Xylene	EPA 8260B	7H16010	15	100	ND	50	08/16/07	08/16/07
Xylenes, Total	EPA 8260B	7H16010	45	200	ND	50	08/16/07	08/16/07
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16010	12	250	ND	50	08/16/07	08/16/07
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16010	14	250	ND	50	08/16/07	08/16/07
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16010	16	250	ND	50	08/16/07	08/16/07
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16010	16	250	ND	50	08/16/07	08/16/07
tert-Butanol (TBA)	EPA 8260B	7H16010	240	2500	ND	50	08/16/07	08/16/07
Ethanol	EPA 8260B	7H16010	5000	7500	ND	50	08/16/07	08/16/07
Surrogate: Dibromofluoromethane (80-120%)					90 %			
Surrogate: Toluene-d8 (80-120%)					99 %			
Surrogate: 4-Bromofluorobenzene (80-120%)					89 %			

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

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IQH0806 <Page 4 of 22>

SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-03 (MW-A3 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16021	1.1	8.0	34	4	08/16/07	08/17/07	J,DX
Ethylbenzene	EPA 8260B	7H16021	1.0	8.0	ND	4	08/16/07	08/17/07	
Toluene	EPA 8260B	7H16021	1.4	8.0	ND	4	08/16/07	08/17/07	
m,p-Xylenes	EPA 8260B	7H16021	2.4	8.0	ND	4	08/16/07	08/17/07	
o-Xylene	EPA 8260B	7H16021	1.2	8.0	ND	4	08/16/07	08/17/07	
Xylenes, Total	EPA 8260B	7H16021	3.6	16	ND	4	08/16/07	08/17/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16021	1.0	20	3.2	4	08/16/07	08/17/07	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16021	1.1	20	ND	4	08/16/07	08/17/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16021	1.3	20	ND	4	08/16/07	08/17/07	J,DX
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16021	1.3	20	260	4	08/16/07	08/17/07	
tert-Butanol (TBA)	EPA 8260B	7H16021	20	200	120	4	08/16/07	08/17/07	
Ethanol	EPA 8260B	7H16021	400	600	ND	4	08/16/07	08/17/07	
Surrogate: Dibromofluoromethane (80-120%)					96 %				
Surrogate: Toluene-d8 (80-120%)					99 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					89 %				

Sample ID: IQH0806-04 (MW-A4 - Water)					Sampled: 08/07/07			
Reporting Units: ug/l								
Benzene	EPA 8260B	7H16010	28	200	9000	100	08/16/07	08/16/07
Ethylbenzene	EPA 8260B	7H16010	25	200	1100	100	08/16/07	08/16/07
Toluene	EPA 8260B	7H16010	36	200	910	100	08/16/07	08/16/07
m,p-Xylenes	EPA 8260B	7H16010	60	200	2000	100	08/16/07	08/16/07
o-Xylene	EPA 8260B	7H16010	30	200	220	100	08/16/07	08/16/07
Xylenes, Total	EPA 8260B	7H16010	90	400	2200	100	08/16/07	08/16/07
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16010	25	500	ND	100	08/16/07	08/16/07
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16010	28	500	ND	100	08/16/07	08/16/07
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16010	33	500	ND	100	08/16/07	08/16/07
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16010	32	500	ND	100	08/16/07	08/16/07
tert-Butanol (TBA)	EPA 8260B	7H16010	490	5000	ND	100	08/16/07	08/16/07
Ethanol	EPA 8260B	7H16010	10000	15000	ND	100	08/16/07	08/16/07
Surrogate: Dibromofluoromethane (80-120%)					92 %			
Surrogate: Toluene-d8 (80-120%)					98 %			
Surrogate: 4-Bromofluorobenzene (80-120%)					89 %			

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

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IQH0806 <Page 5 of 22>

SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-05 (MW-A5 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16010	0.28	2.0	23	1	08/16/07	08/16/07	
Ethylbenzene	EPA 8260B	7H16010	0.25	2.0	0.49	1	08/16/07	08/16/07	J,DX
Toluene	EPA 8260B	7H16010	0.36	2.0	ND	1	08/16/07	08/16/07	
m,p-Xylenes	EPA 8260B	7H16010	0.60	2.0	1.2	1	08/16/07	08/16/07	J,DX
o-Xylene	EPA 8260B	7H16010	0.30	2.0	ND	1	08/16/07	08/16/07	
Xylenes, Total	EPA 8260B	7H16010	0.90	4.0	1.3	1	08/16/07	08/16/07	J,DX
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16010	0.25	5.0	3.0	1	08/16/07	08/16/07	J,DX
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16010	0.28	5.0	ND	1	08/16/07	08/16/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16010	0.33	5.0	1.0	1	08/16/07	08/16/07	J,DX
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16010	0.32	5.0	210	1	08/16/07	08/16/07	
tert-Butanol (TBA)	EPA 8260B	7H16010	4.9	50	100	1	08/16/07	08/16/07	
Ethanol	EPA 8260B	7H16010	100	150	ND	1	08/16/07	08/16/07	
Surrogate: Dibromofluoromethane (80-120%)					90 %				
Surrogate: Toluene-d8 (80-120%)					100 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					88 %				

Sample ID: IQH0806-06 (MW-A6 - Water)					Sampled: 08/08/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16006	0.28	2.0	3.5	1	08/16/07	08/16/07	
Ethylbenzene	EPA 8260B	7H16006	0.25	2.0	ND	1	08/16/07	08/16/07	
Toluene	EPA 8260B	7H16006	0.36	2.0	ND	1	08/16/07	08/16/07	
m,p-Xylenes	EPA 8260B	7H16006	0.60	2.0	ND	1	08/16/07	08/16/07	
o-Xylene	EPA 8260B	7H16006	0.30	2.0	ND	1	08/16/07	08/16/07	
Xylenes, Total	EPA 8260B	7H16006	0.90	4.0	ND	1	08/16/07	08/16/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16006	0.25	5.0	ND	1	08/16/07	08/16/07	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16006	0.28	5.0	ND	1	08/16/07	08/16/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16006	0.33	5.0	ND	1	08/16/07	08/16/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16006	0.32	5.0	ND	1	08/16/07	08/16/07	
tert-Butanol (TBA)	EPA 8260B	7H16006	4.9	50	ND	1	08/16/07	08/16/07	
Ethanol	EPA 8260B	7H16006	100	150	ND	1	08/16/07	08/16/07	IB,IA, LP
Surrogate: Dibromofluoromethane (80-120%)					110 %				
Surrogate: Toluene-d8 (80-120%)					103 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					108 %				

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SECOR International - Thousand Oaks
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Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-07 (MW-A7 - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16006	28	200	6400	100	08/16/07	08/16/07	
Ethylbenzene	EPA 8260B	7H16006	25	200	560	100	08/16/07	08/16/07	
Toluene	EPA 8260B	7H16006	36	200	56	100	08/16/07	08/16/07	J,DX
m,p-Xylenes	EPA 8260B	7H16006	60	200	760	100	08/16/07	08/16/07	
o-Xylene	EPA 8260B	7H16006	30	200	160	100	08/16/07	08/16/07	J,DX
Xylenes, Total	EPA 8260B	7H16006	90	400	920	100	08/16/07	08/16/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16006	25	500	ND	100	08/16/07	08/16/07	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16006	28	500	ND	100	08/16/07	08/16/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16006	33	500	ND	100	08/16/07	08/16/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16006	32	500	56	100	08/16/07	08/16/07	J,DX
tert-Butanol (TBA)	EPA 8260B	7H16006	490	5000	ND	100	08/16/07	08/16/07	
Ethanol	EPA 8260B	7H16006	10000	15000	ND	100	08/16/07	08/16/07	IB,IA, LP
Surrogate: Dibromofluoromethane (80-120%)					107 %				
Surrogate: Toluene-d8 (80-120%)					105 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					109 %				

Sample ID: IQH0806-08 (MW-A8S - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16027	0.28	2.0	110	1	08/16/07	08/17/07	
Ethylbenzene	EPA 8260B	7H16027	0.25	2.0	0.62	1	08/16/07	08/17/07	J,DX
Toluene	EPA 8260B	7H16027	0.36	2.0	0.92	1	08/16/07	08/17/07	J,DX
m,p-Xylenes	EPA 8260B	7H16027	0.60	2.0	ND	1	08/16/07	08/17/07	
o-Xylene	EPA 8260B	7H16027	0.30	2.0	ND	1	08/16/07	08/17/07	
Xylenes, Total	EPA 8260B	7H16027	0.90	4.0	ND	1	08/16/07	08/17/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16027	0.25	5.0	ND	1	08/16/07	08/17/07	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16027	0.28	5.0	ND	1	08/16/07	08/17/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16027	0.33	5.0	0.41	1	08/16/07	08/17/07	J,DX
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16027	0.32	5.0	63	1	08/16/07	08/17/07	
tert-Butanol (TBA)	EPA 8260B	7H16027	4.9	50	80	1	08/16/07	08/17/07	
Ethanol	EPA 8260B	7H16027	100	150	ND	1	08/16/07	08/17/07	
Surrogate: Dibromofluoromethane (80-120%)					91 %				
Surrogate: Toluene-d8 (80-120%)					93 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					91 %				

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Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-09 (MW-A8D - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16006	0.28	2.0	4.5	1	08/16/07	08/16/07	
Ethylbenzene	EPA 8260B	7H16006	0.25	2.0	ND	1	08/16/07	08/16/07	
Toluene	EPA 8260B	7H16006	0.36	2.0	ND	1	08/16/07	08/16/07	
m,p-Xylenes	EPA 8260B	7H16006	0.60	2.0	ND	1	08/16/07	08/16/07	
o-Xylene	EPA 8260B	7H16006	0.30	2.0	ND	1	08/16/07	08/16/07	
Xylenes, Total	EPA 8260B	7H16006	0.90	4.0	ND	1	08/16/07	08/16/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16006	0.25	5.0	0.26	1	08/16/07	08/16/07	J,DX
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16006	0.28	5.0	ND	1	08/16/07	08/16/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16006	0.33	5.0	ND	1	08/16/07	08/16/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16006	0.32	5.0	9.3	1	08/16/07	08/16/07	
tert-Butanol (TBA)	EPA 8260B	7H16006	4.9	50	44	1	08/16/07	08/16/07	J,DX
Ethanol	EPA 8260B	7H16006	100	150	ND	1	08/16/07	08/16/07	IB,IA, LP
Surrogate: Dibromofluoromethane (80-120%)					111 %				
Surrogate: Toluene-d8 (80-120%)					102 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					110 %				

Sample ID: IQH0806-10 (DUP-5110-20070807 - Water)					Sampled: 08/07/07					
Reporting Units: ug/l										
Benzene	EPA 8260B	7H16006	0.28	2.0	28	1	08/16/07	08/16/07	J,DX	
Ethylbenzene	EPA 8260B	7H16006	0.25	2.0	0.31	1	08/16/07	08/16/07		
Toluene	EPA 8260B	7H16006	0.36	2.0	ND	1	08/16/07	08/16/07		
m,p-Xylenes	EPA 8260B	7H16006	0.60	2.0	ND	1	08/16/07	08/16/07		
o-Xylene	EPA 8260B	7H16006	0.30	2.0	ND	1	08/16/07	08/16/07		
Xylenes, Total	EPA 8260B	7H16006	0.90	4.0	ND	1	08/16/07	08/16/07	J,DX	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16006	0.25	5.0	3.8	1	08/16/07	08/16/07		
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16006	0.28	5.0	ND	1	08/16/07	08/16/07		
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16006	0.33	5.0	1.1	1	08/16/07	08/16/07		
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16006	0.32	5.0	210	1	08/16/07	08/16/07		
tert-Butanol (TBA)	EPA 8260B	7H16006	4.9	50	150	1	08/16/07	08/16/07	IB,IA, LP	
Ethanol	EPA 8260B	7H16006	100	150	ND	1	08/16/07	08/16/07		
Surrogate: Dibromofluoromethane (80-120%)					109 %					
Surrogate: Toluene-d8 (80-120%)					104 %					
Surrogate: 4-Bromofluorobenzene (80-120%)					108 %					

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Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Method	Batch	MDL Limit	Reporting Limit	Sample Result	Dilution Factor	Date Extracted	Date Analyzed	Data Qualifiers
Sample ID: IQH0806-11 (TB-5110-20070807B - Water)					Sampled: 08/07/07				
Reporting Units: ug/l									
Benzene	EPA 8260B	7H16006	0.28	2.0	ND	1	08/16/07	08/16/07	
Ethylbenzene	EPA 8260B	7H16006	0.25	2.0	ND	1	08/16/07	08/16/07	
Toluene	EPA 8260B	7H16006	0.36	2.0	ND	1	08/16/07	08/16/07	
m,p-Xylenes	EPA 8260B	7H16006	0.60	2.0	ND	1	08/16/07	08/16/07	
o-Xylene	EPA 8260B	7H16006	0.30	2.0	ND	1	08/16/07	08/16/07	
Xylenes, Total	EPA 8260B	7H16006	0.90	4.0	ND	1	08/16/07	08/16/07	
Di-isopropyl Ether (DIPE)	EPA 8260B	7H16006	0.25	5.0	ND	1	08/16/07	08/16/07	
Ethyl tert-Butyl Ether (ETBE)	EPA 8260B	7H16006	0.28	5.0	ND	1	08/16/07	08/16/07	
tert-Amyl Methyl Ether (TAME)	EPA 8260B	7H16006	0.33	5.0	ND	1	08/16/07	08/16/07	
Methyl-tert-butyl Ether (MTBE)	EPA 8260B	7H16006	0.32	5.0	ND	1	08/16/07	08/16/07	
tert-Butanol (TBA)	EPA 8260B	7H16006	4.9	50	ND	1	08/16/07	08/16/07	
Ethanol	EPA 8260B	7H16006	100	150	ND	1	08/16/07	08/16/07	IB,IA, LP, LM
Surrogate: Dibromofluoromethane (80-120%)					108 %				
Surrogate: Toluene-d8 (80-120%)					104 %				
Surrogate: 4-Bromofluorobenzene (80-120%)					110 %				

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Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/8015M)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H15045 Extracted: 08/15/07										
Blank Analyzed: 08/15/2007 (7H15045-BLK1)										
GRO (C4 - C12)	ND	50	30	ug/l						
Surrogate: 4-BFB (FID)	8.71			ug/l	10.0		87	65-140		
LCS Analyzed: 08/15/2007 (7H15045-BS1)										
GRO (C4 - C12)	825	50	30	ug/l	800		103	80-120		
Surrogate: 4-BFB (FID)	16.1			ug/l	10.0		161	65-140		LH,AY
Matrix Spike Analyzed: 08/15/2007 (7H15045-MS1)					Source: IQH0806-01					
GRO (C4 - C12)	259	50	30	ug/l	220	32.6	103	65-140		
Surrogate: 4-BFB (FID)	11.0			ug/l	10.0		110	65-140		
Matrix Spike Dup Analyzed: 08/15/2007 (7H15045-MSD1)					Source: IQH0806-01					
GRO (C4 - C12)	265	50	30	ug/l	220	32.6	106	65-140	2	20
Surrogate: 4-BFB (FID)	10.9			ug/l	10.0		109	65-140		
Batch: 7H15046 Extracted: 08/15/07										
Blank Analyzed: 08/15/2007 (7H15046-BLK1)										
GRO (C4 - C12)	ND	50	30	ug/l						
Surrogate: 4-BFB (FID)	9.08			ug/l	10.0		91	65-140		
LCS Analyzed: 08/15/2007 (7H15046-BS1)										
GRO (C4 - C12)	836	50	30	ug/l	800		105	80-120		
Surrogate: 4-BFB (FID)	11.6			ug/l	10.0		116	65-140		
Matrix Spike Analyzed: 08/15/2007 (7H15046-MS1)					Source: IQH0806-06					
GRO (C4 - C12)	338	50	30	ug/l	220	113	102	65-140		
Surrogate: 4-BFB (FID)	11.9			ug/l	10.0		119	65-140		

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Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/8015M)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC %REC	Limits	RPD	RPD Limit	Data Qualifiers
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Batch: 7H15046 Extracted: 08/15/07

Matrix Spike Dup Analyzed: 08/15/2007 (7H15046-MSD1)

Source: IQH0806-06

GRO (C4 - C12)	336	50	30	ug/l	220	113	101	65-140	1	20	
Surrogate: 4-BFB (FID)	11.6			ug/l	10.0		116	65-140			

Batch: 7H16045 Extracted: 08/16/07

Blank Analyzed: 08/16/2007 (7H16045-BLK1)

GRO (C4 - C12)	ND	50	30	ug/l							
Surrogate: 4-BFB (FID)	9.05			ug/l	10.0		91	65-140			

LCS Analyzed: 08/16/2007 (7H16045-BS1)

GRO (C4 - C12)	816	50	30	ug/l	800		102	80-120			
Surrogate: 4-BFB (FID)	15.9			ug/l	10.0		159	65-140			LH,AY

Matrix Spike Analyzed: 08/16/2007 (7H16045-MS1)

Source: IQH0937-04

GRO (C4 - C12)	244	50	30	ug/l	220	ND	111	65-140			
Surrogate: 4-BFB (FID)	10.3			ug/l	10.0		103	65-140			

Matrix Spike Dup Analyzed: 08/16/2007 (7H16045-MSD1)

Source: IQH0937-04

GRO (C4 - C12)	245	50	30	ug/l	220	ND	112	65-140	1	20	
Surrogate: 4-BFB (FID)	10.8			ug/l	10.0		108	65-140			

Batch: 7H18028 Extracted: 08/18/07

Blank Analyzed: 08/18/2007 (7H18028-BLK1)

GRO (C4 - C12)	ND	50	30	ug/l							
Surrogate: 4-BFB (FID)	10.4			ug/l	10.0		104	65-140			

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Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

VOLATILE FUEL HYDROCARBONS (EPA 5030/8015M)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H18028 Extracted: 08/18/07										
LCS Analyzed: 08/18/2007 (7H18028-BS1)										
GRO (C4 - C12)	908	50	30	ug/l	800		114	80-120		
Surrogate: 4-BFB (FID)	13.9			ug/l	10.0		139	65-140		
Matrix Spike Analyzed: 08/18/2007 (7H18028-MS1)										
					Source: IQH1270-06					
GRO (C4 - C12)	228	50	30	ug/l	220	ND	103	65-140		
Surrogate: 4-BFB (FID)	10.2			ug/l	10.0		102	65-140		
Matrix Spike Dup Analyzed: 08/18/2007 (7H18028-MSD1)										
					Source: IQH1270-06					
GRO (C4 - C12)	229	50	30	ug/l	220	ND	104	65-140	0	20
Surrogate: 4-BFB (FID)	10.9			ug/l	10.0		109	65-140		

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Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16006 Extracted: 08/16/07											
Blank Analyzed: 08/16/2007 (7H16006-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Toluene	ND	2.0	0.36	ug/l							
m,p-Xylenes	ND	2.0	0.60	ug/l							
o-Xylene	ND	2.0	0.30	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Di-isopropyl Ether (DIPE)	ND	5.0	0.25	ug/l							
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	0.28	ug/l							
tert-Amyl Methyl Ether (TAME)	ND	5.0	0.33	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	0.32	ug/l							
tert-Butanol (TBA)	ND	50	4.9	ug/l							
Ethanol	ND	150	100	ug/l							
Surrogate: Dibromofluoromethane	26.9			ug/l	25.0		107	80-120			
Surrogate: Toluene-d8	25.8			ug/l	25.0		103	80-120			
Surrogate: 4-Bromofluorobenzene	27.7			ug/l	25.0		111	80-120			
LCS Analyzed: 08/16/2007 (7H16006-BS1)											
Benzene	22.7	2.0	0.28	ug/l	25.0		91	70-120			
Ethylbenzene	25.2	2.0	0.25	ug/l	25.0		101	75-125			
Toluene	23.8	2.0	0.36	ug/l	25.0		95	70-120			
m,p-Xylenes	46.6	2.0	0.60	ug/l	50.0		93	75-125			
o-Xylene	24.6	2.0	0.30	ug/l	25.0		99	75-125			
Xylenes, Total	71.2	4.0	0.90	ug/l	75.0		95	70-125			
Di-isopropyl Ether (DIPE)	29.8	5.0	0.25	ug/l	25.0		119	60-135			
Ethyl tert-Butyl Ether (ETBE)	26.2	5.0	0.28	ug/l	25.0		105	65-135			
tert-Amyl Methyl Ether (TAME)	21.5	5.0	0.33	ug/l	25.0		86	60-135			
Methyl-tert-butyl Ether (MTBE)	26.2	5.0	0.32	ug/l	25.0		105	60-135			
tert-Butanol (TBA)	140	50	4.9	ug/l	125		112	70-135			
Ethanol	485	150	100	ug/l	250		194	40-155			LP
Surrogate: Dibromofluoromethane	26.3			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	25.5			ug/l	25.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	27.1			ug/l	25.0		108	80-120			

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Project Manager

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Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16006 Extracted: 08/16/07											
Matrix Spike Analyzed: 08/16/2007 (7H16006-MS1)						Source: IQH0806-11					
Benzene	21.4	2.0	0.28	ug/l	25.0	ND	86	65-125			
Ethylbenzene	24.5	2.0	0.25	ug/l	25.0	ND	98	65-130			
Toluene	22.8	2.0	0.36	ug/l	25.0	ND	91	70-125			
m,p-Xylenes	45.6	2.0	0.60	ug/l	50.0	ND	91	65-130			
o-Xylene	23.2	2.0	0.30	ug/l	25.0	ND	93	65-125			
Xylenes, Total	68.8	4.0	0.90	ug/l	75.0	ND	92	60-130			
Di-isopropyl Ether (DIPE)	28.2	5.0	0.25	ug/l	25.0	ND	113	60-140			
Ethyl tert-Butyl Ether (ETBE)	24.8	5.0	0.28	ug/l	25.0	ND	99	60-135			
tert-Amyl Methyl Ether (TAME)	19.8	5.0	0.33	ug/l	25.0	ND	79	60-140			
Methyl-tert-butyl Ether (MTBE)	25.0	5.0	0.32	ug/l	25.0	ND	100	55-145			
tert-Butanol (TBA)	136	50	4.9	ug/l	125	ND	109	65-140			
Ethanol	453	150	100	ug/l	250	ND	181	40-155			LM
Surrogate: Dibromofluoromethane	26.3			ug/l	25.0		105	80-120			
Surrogate: Toluene-d8	26.0			ug/l	25.0		104	80-120			
Surrogate: 4-Bromofluorobenzene	27.6			ug/l	25.0		111	80-120			
Matrix Spike Dup Analyzed: 08/16/2007 (7H16006-MSD1)						Source: IQH0806-11					
Benzene	21.6	2.0	0.28	ug/l	25.0	ND	86	65-125	1	20	
Ethylbenzene	24.6	2.0	0.25	ug/l	25.0	ND	99	65-130	1	20	
Toluene	23.0	2.0	0.36	ug/l	25.0	ND	92	70-125	1	20	
m,p-Xylenes	45.4	2.0	0.60	ug/l	50.0	ND	91	65-130	1	25	
o-Xylene	23.4	2.0	0.30	ug/l	25.0	ND	94	65-125	1	20	
Xylenes, Total	68.8	4.0	0.90	ug/l	75.0	ND	92	60-130	0	20	
Di-isopropyl Ether (DIPE)	29.9	5.0	0.25	ug/l	25.0	ND	120	60-140	6	25	
Ethyl tert-Butyl Ether (ETBE)	26.1	5.0	0.28	ug/l	25.0	ND	105	60-135	5	25	
tert-Amyl Methyl Ether (TAME)	21.4	5.0	0.33	ug/l	25.0	ND	86	60-140	8	30	
Methyl-tert-butyl Ether (MTBE)	27.0	5.0	0.32	ug/l	25.0	ND	108	55-145	8	25	
tert-Butanol (TBA)	132	50	4.9	ug/l	125	ND	106	65-140	2	25	
Ethanol	411	150	100	ug/l	250	ND	165	40-155	10	30	LM
Surrogate: Dibromofluoromethane	27.0			ug/l	25.0		108	80-120			
Surrogate: Toluene-d8	25.4			ug/l	25.0		102	80-120			
Surrogate: 4-Bromofluorobenzene	27.4			ug/l	25.0		110	80-120			

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Project Manager

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SECOR International - Thousand Oaks
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Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16010 Extracted: 08/16/07											
Blank Analyzed: 08/16/2007 (7H16010-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Toluene	ND	2.0	0.36	ug/l							
m,p-Xylenes	ND	2.0	0.60	ug/l							
o-Xylene	ND	2.0	0.30	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Di-isopropyl Ether (DIPE)	ND	5.0	0.25	ug/l							
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	0.28	ug/l							
tert-Amyl Methyl Ether (TAME)	ND	5.0	0.33	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	0.32	ug/l							
tert-Butanol (TBA)	ND	50	4.9	ug/l							
Ethanol	ND	150	100	ug/l							
Surrogate: Dibromofluoromethane	21.2			ug/l	25.0		85	80-120			
Surrogate: Toluene-d8	24.6			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	23.7			ug/l	25.0		95	80-120			
LCS Analyzed: 08/16/2007 (7H16010-BS1)											
Benzene	26.3	2.0	0.28	ug/l	25.0		105	70-120			
Ethylbenzene	27.3	2.0	0.25	ug/l	25.0		109	75-125			
Toluene	26.3	2.0	0.36	ug/l	25.0		105	70-120			
m,p-Xylenes	53.1	2.0	0.60	ug/l	50.0		106	75-125			
o-Xylene	26.6	2.0	0.30	ug/l	25.0		107	75-125			
Xylenes, Total	79.7	4.0	0.90	ug/l	75.0		106	70-125			
Di-isopropyl Ether (DIPE)	30.3	5.0	0.25	ug/l	25.0		121	60-135			
Ethyl tert-Butyl Ether (ETBE)	29.2	5.0	0.28	ug/l	25.0		117	65-135			
tert-Amyl Methyl Ether (TAME)	29.7	5.0	0.33	ug/l	25.0		119	60-135			
Methyl-tert-butyl Ether (MTBE)	29.3	5.0	0.32	ug/l	25.0		117	60-135			
tert-Butanol (TBA)	131	50	4.9	ug/l	125		105	70-135			
Ethanol	208	150	100	ug/l	250		83	40-155			
Surrogate: Dibromofluoromethane	24.2			ug/l	25.0		97	80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		100	80-120			
Surrogate: 4-Bromofluorobenzene	25.1			ug/l	25.0		100	80-120			

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Report Number: IQH0806

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Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16010 Extracted: 08/16/07											
Matrix Spike Analyzed: 08/16/2007 (7H16010-MS1)						Source: IQH0806-01					
Benzene	27.1	2.0	0.28	ug/l	25.0	2.81	97	65-125			
Ethylbenzene	26.5	2.0	0.25	ug/l	25.0	ND	106	65-130			
Toluene	24.6	2.0	0.36	ug/l	25.0	ND	99	70-125			
m,p-Xylenes	51.7	2.0	0.60	ug/l	50.0	ND	103	65-130			
o-Xylene	25.8	2.0	0.30	ug/l	25.0	ND	103	65-125			
Xylenes, Total	77.5	4.0	0.90	ug/l	75.0	ND	103	60-130			
Di-isopropyl Ether (DIPE)	27.8	5.0	0.25	ug/l	25.0	1.24	106	60-140			
Ethyl tert-Butyl Ether (ETBE)	24.7	5.0	0.28	ug/l	25.0	ND	99	60-135			
tert-Amyl Methyl Ether (TAME)	25.0	5.0	0.33	ug/l	25.0	ND	100	60-140			
Methyl-tert-butyl Ether (MTBE)	32.3	5.0	0.32	ug/l	25.0	7.69	98	55-145			
tert-Butanol (TBA)	156	50	4.9	ug/l	125	16.1	112	65-140			
Ethanol	288	150	100	ug/l	250	ND	115	40-155			
Surrogate: Dibromofluoromethane	22.6			ug/l	25.0		90	80-120			
Surrogate: Toluene-d8	24.9			ug/l	25.0		99	80-120			
Surrogate: 4-Bromofluorobenzene	24.2			ug/l	25.0		97	80-120			
Matrix Spike Dup Analyzed: 08/16/2007 (7H16010-MSD1)						Source: IQH0806-01					
Benzene	26.7	2.0	0.28	ug/l	25.0	2.81	96	65-125	2	20	
Ethylbenzene	25.7	2.0	0.25	ug/l	25.0	ND	103	65-130	3	20	
Toluene	24.2	2.0	0.36	ug/l	25.0	ND	97	70-125	2	20	
m,p-Xylenes	50.4	2.0	0.60	ug/l	50.0	ND	101	65-130	3	25	
o-Xylene	25.3	2.0	0.30	ug/l	25.0	ND	101	65-125	2	20	
Xylenes, Total	75.8	4.0	0.90	ug/l	75.0	ND	101	60-130	2	20	
Di-isopropyl Ether (DIPE)	28.3	5.0	0.25	ug/l	25.0	1.24	108	60-140	2	25	
Ethyl tert-Butyl Ether (ETBE)	25.5	5.0	0.28	ug/l	25.0	ND	102	60-135	3	25	
tert-Amyl Methyl Ether (TAME)	25.6	5.0	0.33	ug/l	25.0	ND	103	60-140	3	30	
Methyl-tert-butyl Ether (MTBE)	33.5	5.0	0.32	ug/l	25.0	7.69	103	55-145	4	25	
tert-Butanol (TBA)	155	50	4.9	ug/l	125	16.1	111	65-140	1	25	
Ethanol	296	150	100	ug/l	250	ND	118	40-155	3	30	
Surrogate: Dibromofluoromethane	23.0			ug/l	25.0		92	80-120			
Surrogate: Toluene-d8	24.6			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	24.1			ug/l	25.0		96	80-120			

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Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16021 Extracted: 08/16/07											
Blank Analyzed: 08/16/2007 (7H16021-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Toluene	ND	2.0	0.36	ug/l							
m,p-Xylenes	ND	2.0	0.60	ug/l							
o-Xylene	ND	2.0	0.30	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Di-isopropyl Ether (DIPE)	ND	5.0	0.25	ug/l							
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	0.28	ug/l							
tert-Amyl Methyl Ether (TAME)	ND	5.0	0.33	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	0.32	ug/l							
tert-Butanol (TBA)	ND	50	4.9	ug/l							
Ethanol	ND	150	100	ug/l							
Surrogate: Dibromofluoromethane	23.2			ug/l	25.0		93	80-120			
Surrogate: Toluene-d8	24.4			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	22.2			ug/l	25.0		89	80-120			
LCS Analyzed: 08/16/2007 (7H16021-BS1)											
Benzene	24.9	2.0	0.28	ug/l	25.0		100	70-120			
Ethylbenzene	26.6	2.0	0.25	ug/l	25.0		106	75-125			
Toluene	24.8	2.0	0.36	ug/l	25.0		99	70-120			
m,p-Xylenes	52.2	2.0	0.60	ug/l	50.0		104	75-125			
o-Xylene	26.0	2.0	0.30	ug/l	25.0		104	75-125			
Xylenes, Total	78.2	4.0	0.90	ug/l	75.0		104	70-125			
Di-isopropyl Ether (DIPE)	27.6	5.0	0.25	ug/l	25.0		111	60-135			
Ethyl tert-Butyl Ether (ETBE)	25.5	5.0	0.28	ug/l	25.0		102	65-135			
tert-Amyl Methyl Ether (TAME)	26.3	5.0	0.33	ug/l	25.0		105	60-135			
Methyl-tert-butyl Ether (MTBE)	25.1	5.0	0.32	ug/l	25.0		100	60-135			
tert-Butanol (TBA)	134	50	4.9	ug/l	125		108	70-135			
Ethanol	303	150	100	ug/l	250		121	40-155			
Surrogate: Dibromofluoromethane	23.6			ug/l	25.0		94	80-120			
Surrogate: Toluene-d8	24.5			ug/l	25.0		98	80-120			
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	25.0		94	80-120			

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Report Number: IQH0806

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Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16021 Extracted: 08/16/07										
Matrix Spike Analyzed: 08/16/2007 (7H16021-MS1)					Source: IQH1061-05					
Benzene	25.5	2.0	0.28	ug/l	25.0	ND	102	65-125		
Ethylbenzene	27.6	2.0	0.25	ug/l	25.0	ND	110	65-130		
Toluene	25.7	2.0	0.36	ug/l	25.0	ND	103	70-125		
m,p-Xylenes	54.1	2.0	0.60	ug/l	50.0	ND	108	65-130		
o-Xylene	27.0	2.0	0.30	ug/l	25.0	ND	108	65-125		
Xylenes, Total	81.1	4.0	0.90	ug/l	75.0	ND	108	60-130		
Di-isopropyl Ether (DIPE)	27.6	5.0	0.25	ug/l	25.0	ND	110	60-140		
Ethyl tert-Butyl Ether (ETBE)	25.0	5.0	0.28	ug/l	25.0	ND	100	60-135		
tert-Amyl Methyl Ether (TAME)	25.4	5.0	0.33	ug/l	25.0	ND	102	60-140		
Methyl-tert-butyl Ether (MTBE)	24.4	5.0	0.32	ug/l	25.0	ND	98	55-145		
tert-Butanol (TBA)	139	50	4.9	ug/l	125	ND	112	65-140		
Ethanol	319	150	100	ug/l	250	ND	127	40-155		
Surrogate: Dibromofluoromethane	23.0			ug/l	25.0		92	80-120		
Surrogate: Toluene-d8	24.8			ug/l	25.0		99	80-120		
Surrogate: 4-Bromofluorobenzene	23.9			ug/l	25.0		96	80-120		
Matrix Spike Dup Analyzed: 08/16/2007 (7H16021-MSD1)					Source: IQH1061-05					
Benzene	25.3	2.0	0.28	ug/l	25.0	ND	101	65-125	1	20
Ethylbenzene	27.1	2.0	0.25	ug/l	25.0	ND	108	65-130	2	20
Toluene	25.3	2.0	0.36	ug/l	25.0	ND	101	70-125	2	20
m,p-Xylenes	53.4	2.0	0.60	ug/l	50.0	ND	107	65-130	1	25
o-Xylene	26.4	2.0	0.30	ug/l	25.0	ND	105	65-125	2	20
Xylenes, Total	79.8	4.0	0.90	ug/l	75.0	ND	106	60-130	2	20
Di-isopropyl Ether (DIPE)	27.4	5.0	0.25	ug/l	25.0	ND	109	60-140	1	25
Ethyl tert-Butyl Ether (ETBE)	25.4	5.0	0.28	ug/l	25.0	ND	102	60-135	2	25
tert-Amyl Methyl Ether (TAME)	25.8	5.0	0.33	ug/l	25.0	ND	103	60-140	2	30
Methyl-tert-butyl Ether (MTBE)	25.0	5.0	0.32	ug/l	25.0	ND	100	55-145	2	25
tert-Butanol (TBA)	140	50	4.9	ug/l	125	ND	112	65-140	0	25
Ethanol	325	150	100	ug/l	250	ND	130	40-155	2	30
Surrogate: Dibromofluoromethane	23.1			ug/l	25.0		92	80-120		
Surrogate: Toluene-d8	24.5			ug/l	25.0		98	80-120		
Surrogate: 4-Bromofluorobenzene	23.7			ug/l	25.0		95	80-120		

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Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16027 Extracted: 08/16/07											
Blank Analyzed: 08/16/2007 (7H16027-BLK1)											
Benzene	ND	2.0	0.28	ug/l							
Ethylbenzene	ND	2.0	0.25	ug/l							
Toluene	ND	2.0	0.36	ug/l							
m,p-Xylenes	ND	2.0	0.60	ug/l							
o-Xylene	ND	2.0	0.30	ug/l							
Xylenes, Total	ND	4.0	0.90	ug/l							
Di-isopropyl Ether (DIPE)	ND	5.0	0.25	ug/l							
Ethyl tert-Butyl Ether (ETBE)	ND	5.0	0.28	ug/l							
tert-Amyl Methyl Ether (TAME)	ND	5.0	0.33	ug/l							
Methyl-tert-butyl Ether (MTBE)	ND	5.0	0.32	ug/l							
tert-Butanol (TBA)	ND	50	4.9	ug/l							
Ethanol	ND	150	100	ug/l							
Surrogate: Dibromofluoromethane	22.0			ug/l	25.0		88	80-120			
Surrogate: Toluene-d8	22.6			ug/l	25.0		90	80-120			
Surrogate: 4-Bromofluorobenzene	22.4			ug/l	25.0		90	80-120			
LCS Analyzed: 08/16/2007 (7H16027-BS1)											
Benzene	23.4	2.0	0.28	ug/l	25.0		94	70-120			
Ethylbenzene	25.6	2.0	0.25	ug/l	25.0		103	75-125			
Toluene	24.4	2.0	0.36	ug/l	25.0		98	70-120			
m,p-Xylenes	50.2	2.0	0.60	ug/l	50.0		100	75-125			
o-Xylene	24.8	2.0	0.30	ug/l	25.0		99	75-125			
Xylenes, Total	75.0	4.0	0.90	ug/l	75.0		100	70-125			
Di-isopropyl Ether (DIPE)	23.2	5.0	0.25	ug/l	25.0		93	60-135			
Ethyl tert-Butyl Ether (ETBE)	24.1	5.0	0.28	ug/l	25.0		97	65-135			
tert-Amyl Methyl Ether (TAME)	23.4	5.0	0.33	ug/l	25.0		94	60-135			
Methyl-tert-butyl Ether (MTBE)	24.1	5.0	0.32	ug/l	25.0		96	60-135			
tert-Butanol (TBA)	130	50	4.9	ug/l	125		104	70-135			
Ethanol	218	150	100	ug/l	250		87	40-155			
Surrogate: Dibromofluoromethane	22.4			ug/l	25.0		90	80-120			
Surrogate: Toluene-d8	23.0			ug/l	25.0		92	80-120			
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	25.0		94	80-120			

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METHOD BLANK/QC DATA

BTEX/OXYGENATES by GC/MS (EPA 8260B)

Analyte	Result	Reporting Limit	MDL	Units	Spike Level	Source Result	%REC Limits	RPD	RPD Limit	Data Qualifiers
Batch: 7H16027 Extracted: 08/16/07										
Matrix Spike Analyzed: 08/16/2007 (7H16027-MS1)					Source: IQH1018-01					
Benzene	24.6	2.0	0.28	ug/l	25.0	ND	98	65-125		
Ethylbenzene	26.4	2.0	0.25	ug/l	25.0	ND	106	65-130		
Toluene	26.0	2.0	0.36	ug/l	25.0	ND	104	70-125		
m,p-Xylenes	50.8	2.0	0.60	ug/l	50.0	ND	102	65-130		
o-Xylene	25.0	2.0	0.30	ug/l	25.0	ND	100	65-125		
Xylenes, Total	75.7	4.0	0.90	ug/l	75.0	ND	101	60-130		
Di-isopropyl Ether (DIPE)	23.6	5.0	0.25	ug/l	25.0	ND	95	60-140		
Ethyl tert-Butyl Ether (ETBE)	24.3	5.0	0.28	ug/l	25.0	ND	97	60-135		
tert-Amyl Methyl Ether (TAME)	23.9	5.0	0.33	ug/l	25.0	ND	96	60-140		
Methyl-tert-butyl Ether (MTBE)	30.1	5.0	0.32	ug/l	25.0	5.91	97	55-145		
tert-Butanol (TBA)	151	50	4.9	ug/l	125	13.9	109	65-140		
Ethanol	256	150	100	ug/l	250	ND	102	40-155		
Surrogate: Dibromofluoromethane	22.0			ug/l	25.0		88	80-120		
Surrogate: Toluene-d8	23.1			ug/l	25.0		92	80-120		
Surrogate: 4-Bromofluorobenzene	23.9			ug/l	25.0		95	80-120		
Matrix Spike Dup Analyzed: 08/16/2007 (7H16027-MSD1)					Source: IQH1018-01					
Benzene	25.8	2.0	0.28	ug/l	25.0	ND	103	65-125	5	20
Ethylbenzene	27.4	2.0	0.25	ug/l	25.0	ND	110	65-130	4	20
Toluene	26.6	2.0	0.36	ug/l	25.0	ND	107	70-125	2	20
m,p-Xylenes	52.1	2.0	0.60	ug/l	50.0	ND	104	65-130	3	25
o-Xylene	26.2	2.0	0.30	ug/l	25.0	ND	105	65-125	5	20
Xylenes, Total	78.3	4.0	0.90	ug/l	75.0	ND	104	60-130	3	20
Di-isopropyl Ether (DIPE)	24.5	5.0	0.25	ug/l	25.0	ND	98	60-140	4	25
Ethyl tert-Butyl Ether (ETBE)	25.9	5.0	0.28	ug/l	25.0	ND	104	60-135	6	25
tert-Amyl Methyl Ether (TAME)	25.1	5.0	0.33	ug/l	25.0	ND	100	60-140	5	30
Methyl-tert-butyl Ether (MTBE)	32.8	5.0	0.32	ug/l	25.0	5.91	108	55-145	9	25
tert-Butanol (TBA)	151	50	4.9	ug/l	125	13.9	110	65-140	1	25
Ethanol	257	150	100	ug/l	250	ND	103	40-155	0	30
Surrogate: Dibromofluoromethane	22.4			ug/l	25.0		90	80-120		
Surrogate: Toluene-d8	23.2			ug/l	25.0		93	80-120		
Surrogate: 4-Bromofluorobenzene	23.6			ug/l	25.0		95	80-120		

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

The results pertain only to the samples tested in the laboratory. This report shall not be reproduced, except in full, without written permission from TestAmerica.

IQH0806 <Page 20 of 22>

SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate
Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

DATA QUALIFIERS AND DEFINITIONS

IB,IA	CCV recovery above limit; analyte not detected, Results are valid even though CCV recovery outside of limits
J,DX	EPA Flag - Estimated value, Value < lowest standard (MQL), but > than MDL
LH,AY	Due to sample matrix effects, the surrogate recovery was outside acceptance limits
LM	MS and/or MSD above acceptance limits. See Blank Spike(LCS).
LP	LCS rec.above meth. control limits. Analyte ND. Data not impacted
PV	Hydrocarbon result partly due to individ. peak(s) in quant. range
ND	Analyte NOT DETECTED at or above the reporting limit or MDL, if MDL is specified.
RPD	Relative Percent Difference

ADDITIONAL COMMENTS

For 8260 analyses:

Due to the high water solubility of alcohols and ketones, the calibration criteria for these compounds is <30% RSD.
The average % RSD of all compounds in the calibration is 15%, in accordance with EPA methods.

For GRO (C4-C12):

GRO (C4-C12) is quantitated against a gasoline standard. Quantitation begins immediately following the methanol peak.

8015 Analysis EDF Parlabel Cross Reference

Analyte	EDF Parlabel
GRO (C4 - C12)	GROC4C12

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

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IQH0806 <Page 21 of 22>

SECOR International - Thousand Oaks
290 Conejo Ridge Avenue, Suite 200
Thousand Oaks, CA 91361
Attention: SECOR - Central LA

Project ID: ARCO 5110, Southgate

Report Number: IQH0806

Sampled: 08/07/07-08/08/07
Received: 08/08/07

Certification Summary

TestAmerica - Irvine, CA

Method	Matrix	Nelac	California
EDD	Water		
EPA 8015B	Water	X	X
EPA 8260B	Water	X	X

Nevada and NELAP provide analyte specific accreditations. Analyte specific information for TestAmerica may be obtained by contacting the laboratory or visiting our website at www.testamericainc.com

TestAmerica - Irvine, CA

Kathleen A. Robb
Project Manager

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Chain of Custody Record

Project Name: 2007-Q3 Groundwater
 BP BU/AR Region/Enfos Segment: Retail
 State or Lead Regulatory Agency: LARWQCB
 Requested Due Date (mm/dd/yy): Standard TAT

Page of

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name: Test America				BP/AR Facility No.: 5110				Consultant/Contractor: SECOR International, Inc.														
Address: 2852 Alton Avenue				BP/AR Facility Address: 5731 E. Firestone Blvd. South Gate, CA				Address: 290 Conejo Ridge Avenue. #200														
Irvine, CA 92606				Site Lat/Long: 33.949 / -118.165				Thousand Oaks, CA 91361														
Lab PM: Kathleen Robb				California Global ID No.: T060373915				Consultant/Contractor Project No.: 37BP.05110.40														
Tele/Fax: 949-261-1022 / 949-260-3297				Enfos Project No.: G0B0C-0009				Consultant/Contractor PM: Tony Wong														
BP/AR EBM: Darrell Fah				Provision or OOC: Provision				Tele/Fax: 805-546-0455														
Address: 6 Centerpointe Drive, 6-162				Phase/WBS: PHASE 3				Report Type & QC Level:														
La Palma, CA 90623				Sub Phase/Task: SAMPLING / 0327				E-mail EDD To: bpdata@secor.com														
Tele/Fax: 714-670-5228				Cost Element: SUBCONTRACT COST (05)				Invoice to: Atlantic Richfield														
Lab Bottle Order No:				Matrix				Preservative				Requested Analysis				Sample Point Lat/Long and Comments						
Item No.	Sample Description	Time	Date	Soil / Solid	Water/Liquid	Air	Laboratory No.	No. of Containers	Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO C4-12 (8015M)	BTEX/OXY/ET (8260B)							
1	MW-A1	2250	08/07/07	X			IQ# 0806	4				X		X	X							Used for DUP
2	MW-A2	2130	08/07/07	X				4				X		X	X							
3	MW-A3	1825	08/07/07	X				4				X		X	X							
4	MW-A4	2005	08/07/07	X				4				X		X	X							
5	MW-A5	2220	08/07/07	X				4				X		X	X							
6	MW-A6	2450	08/07/07	X				4				X		X	X							
7	MW-A7	1710	08/07/07	X				4				X		X	X							
8	MW-A8S	2320	08/07/07	X				4				X		X	X							
9	MW-A8D	2335	08/07/07	X				4				X		X	X							
10	DUP-5110-20070807	1826	08/07/07	X				4				X		X	X							MW-A1
11	TB-5110-20070807B	1504	08/07/07	X				4				X		X	X							QCTB
Sampler's Name: JOSE AGUIRRE				Relinquished By / Affiliation				Date	Time	Accepted By / Affiliation				Date	Time							
Sampler's Company: SECOR International, Inc.				[Signature]				7/18/07	1304	[Signature]				8/8/07	1304							
Shipment Date:				[Signature]				8/8/07	1915	[Signature]				8-8-07	1915							
Shipment Method:																						
Shipment Tracking No:																						
Special Instructions:																						
Custody Seals In Place: Yes / (No) Temp Blank: Yes / (No) Cooler Temp on Receipt: °F/C Trip Blank: Yes / No MS/MSD Sample Submitted: Yes / No																						

336

4.8



STL

August 20, 2007

LOT NUMBER: **E7H090372**
PO/CONTRACT: GEM-6-21909

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

Paul La Bonte
SECOR International Inc
290 Conejo Ridge Ave
Suite 200
Thousand Oaks, CA 91361

Dear Paul La Bonte,

This report contains the analytical results for the four samples received under chain of custody by STL Los Angeles on August 9, 2007. These samples are associated with your ARCO #0031 project.

STL Los Angeles certifies that the test results provided in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA / E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the cooler received for this project can be found on the Project Receipt Checklist. Historical control limits for the LCS are used to define the estimate of uncertainty for a method. All applicable quality control procedures met method-specified acceptance criteria.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains **000033** pages.

If you have any questions, please feel free to call me at (714) 258-8610.

Sincerely,


Beth Riley
Project Manager

cc: Project File

CASE NARRATIVE

LOT NUMBER: **E7H090372**

The relative response factor (RRF) for Ethanol does not meet the GCLN criteria for either the initial calibration (ICAL) or the continuing calibration verification (CCV). Even though this criteria was not met, the RRF's for Ethanol were greater than 0.05; which, is consistent with the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review and the data is suitable for use.





Chain of Custody Record

Project Name: 2007-Q3 Groundwater

BP BU/AR Region/Enfos Segment:

Terminal

State or Lead Regulatory Agency:

Atlantic Richfield

E7H090372

Requested Due Date (mm/dd/yy):

Standard TAT

Page 1 of 1

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name:	STL Los Angeles	BP/AR Facility No.:	0031	Consultant/Contractor:	SECOR International, Inc.
Address:	1721 South Grand Avenue	BP/AR Facility Address:	8601 S. Garfield Blvd., South Gate, CA	Address:	290 Conejo Ridge Avenue, #200
	Santa Ana, CA 92705	Site Lat/Long:	33.95 / -118.17		Thousand Oaks, CA 91361
Lab PM:	Beth Riley	California Global ID No.:	SL373452448	Consultant/Contractor Project No.:	37BP.00031.20
Tele/Fax:	714-258-8610/714-258-0921	Enfos Project No.:	G0CKK-0016	Consultant/Contractor PM:	Paul LaBonte
BP/AR EBM:	Darrell Fah	Provision or OOC:	Provision	Tele/Fax:	805-230-1266 / 805-230-1277
Address:	6 Centerpointe Drive, 6-162	Phase/WBS:	PHASE 3	Report Type & QC Level:	
	La Palma, CA 90623	Sub Phase/Task:	SAMPLING / 0327	E-mail EDD To:	bpvinvale@secor.com
Tele/Fax:	714-670-5228	Cost Element:	SUBCONTRACT COST	Invoice to:	C Atlantic Richfield

Lab Bottle Order No:				Matrix			Laboratory No.	No. of Containers	Preservative					Requested Analysis								Sample Point Lat/Long and Comm
Item No.	Sample Description	Time	Date	Soil / Solid	Water/Liquid	Air			Unpreserved	H ₂ SO ₄	HNO ₃	HCl	Methanol	GRO C4-12 (8015M)	BTEX/OXY/ET (8260B)	VOC 1,2 DCA (8260B)	DIPE (8260B)	ETBE (8260B)	TAME (8260B)			
1	MW-19	1630	08/07/07		X			6				X		X	X	X	X	X	X			
2	MW-20	1950	08/07/07		X			6				X		X	X	X	X	X	X			
3	TB-5110-20070807A	1503	08/07/07		X			6				X		X	X	X	X	X	X			QCTB
4	FB-5110-20070807	1550	08/07/07		X			6				X		X	X	X	X	X	X			QCFB
5																						
6																						
7																						
8																						
9																						
10																						

Sampler's Name:	JOSE AGUIRRE	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Company:	SECOR International, Inc.		08/07/07	1630		08/07/07	1630
Shipment Date:			08/07/07	1800		08/07/07	1800
Shipment Method:							
Shipment Tracking No:							

Special Instructions:

Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

TESTAMERICA LA - PROJECT RECEIPT CHECKLIST Date: 8/10/07

Single Cooler Only

LIMS Lot #: ET1H0903792 or 8/10

Quote #: 62668

Client Name: Secor

Project: 2007-Q3 Groundwater

Received by: SG

Date/Time Received: 8/9/07 1800

Delivered by: ☒ Client ☐ TA ☐ DHL ☐ Fed Ex ☐ UPS ☐ Other

***** Initial / Date GL 8/10/07
Custody Seal Status Cooler: ☐ Intact ☐ Broken ☒ None

Custody Seal Status Samples: ☐ Intact ☐ Broken ☒ None

Custody Seal #(s): N/A ☐ No Seal #

Sampler Signature on COC ☒ Yes ☐ No ☐ N/A

Therm # C Correction Factor 0 °C Therm passed daily verification ☒ Yes ☐ No

Temperature - BLANK 5.3 °C 0 CF = 5.3 °C Cooler #1 ID N/A

Temperature - COOLER (°C °C °C °C) = avg °C - CF = °C

Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒ N/A

Sample Container(s): ☒ TA-LA ☐ Client

pH measured: ☐ Yes ☐ Anomaly (if checked, notify lab and file NCM) ☒ N/A

Anomalies: ☒ No ☐ Yes - complete CUR and Create NCM

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ Yes ☐ No

Labeled by: PL

Turn Around Time: ☐ RUSH-24HR ☐ RUSH-48HR ☐ RUSH-72HR ☒ NORMAL

***** LEAVE NO BLANK SPACES ; USE N/A *****

Headspace Anomaly <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A <u>or 8/10/07</u>					
Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm
		<input type="checkbox"/> > 6mm			<input type="checkbox"/> > 6mm

Fraction	1-4														
VOAH	6														

CUL 8/9/10
 10/10/07

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore
AGB: Amber Glass Bottle, n/f1:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form		Anomalies <input type="checkbox"/> YES <input checked="" type="checkbox"/> N/A <i>CE 8/9/07</i>	
COOLERS <input type="checkbox"/> Not Received (received COC only) <input type="checkbox"/> Leaking <input type="checkbox"/> Other:	CUSTODY SEALS (COOLER(S) CONTAINER(S)) <input type="checkbox"/> None <input type="checkbox"/> Not Intact <input type="checkbox"/> Other	<input type="checkbox"/> None <input type="checkbox"/> Not Intact <input type="checkbox"/> Other	
TEMPERATURE (SPECS $4 \pm 2^{\circ}\text{C}$) <input type="checkbox"/> Cooler Temp(s) <input type="checkbox"/> Temperature Blank(s)	CHAIN OF CUSTODY (COC) <input type="checkbox"/> Not relinquished by Client; No date/time relinquished <input type="checkbox"/> Incomplete information provided <input type="checkbox"/> Other <input type="checkbox"/> COC not received – notify PM		
CONTAINERS <input type="checkbox"/> Leaking <input type="checkbox"/> Voa Vials with Bubbles > 6mm <input type="checkbox"/> Broken <input type="checkbox"/> Extra <input type="checkbox"/> Without Labels <input type="checkbox"/> Other:	LABELS <input type="checkbox"/> Not the same ID/info as in COC <input type="checkbox"/> Incomplete Information <input type="checkbox"/> Markings/Info illegible <input type="checkbox"/> Torn		
SAMPLES <input type="checkbox"/> Samples NOT RECEIVED but listed on COC <input type="checkbox"/> Samples received but NOT LISTED on COC <input type="checkbox"/> Logged based on Label Information <input type="checkbox"/> Logged based on info from other samples on COC <input type="checkbox"/> Logged according to Work Plan <input type="checkbox"/> Logged on HOLD UNTIL FURTHER NOTICE	<input type="checkbox"/> Will be noted on COC--Client to send samples with new COC <input type="checkbox"/> Mislabeled as to tests, preservatives, etc. <input type="checkbox"/> Holding time expired – list sample ID and test <input type="checkbox"/> Improper container used <input type="checkbox"/> Not preserved/Improper preservative used <input type="checkbox"/> Improper pH _____ Lab to preserve sample and document <input type="checkbox"/> Insufficient quantities for analysis <input type="checkbox"/> Other		
Comments: 			
<input type="checkbox"/> Corrective Action Implemented: <input type="checkbox"/> Client Informed: verbally on _____ <input type="checkbox"/> Sample(s) on hold until: _____			
By: _____ <input type="checkbox"/> In writing on _____		By: _____	
<input type="checkbox"/> Sample(s) processed "as is."			
Logged by/Date: Logged in by other TA <input type="checkbox"/> _____ <i>SG 8/10/07</i>		PM Review/Date: <i>CE 8/13/07</i>	

Client Sample ID: MW-19

Lot-Sample #....	E7H090372-001	Work Order #....	J4KJ21AC	Matrix.....	W
Date Sampled....	08/07/07 16:30	Date Received...	08/09/07 18:00	MS Run #.....	7225288
Prep Date.....	08/10/07	Analysis Date...	08/11/07		
Prep Batch #....	7225524	Analysis Time...	06:12		
Dilution Factor:	10				
Analyst ID.....	015590	Instrument ID...	MSN		
		Method.....	SW846 8260B		

NOTE (S) :

JDX J= EPA Flag - Esitmed value; DX = Value< lowest standard (MQL), but > MDL.

Client Sample ID: MW-19

Lot-Sample #....	E7H090372-001	Work Order #....	J4KJ21AA	Matrix.....	W
Date Sampled....	08/07/07 16:30	Date Received...	08/09/07 18:00	MS Run #.....	7225248
Prep Date.....	08/11/07	Analysis Date...	08/11/07		
Prep Batch #....	7225455	Analysis Time...	09:36		
Dilution Factor:	1				
Analyst ID.....	001464	Instrument ID...	G15		
		Method.....	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
GRO (C4 - C12)	1300	100	ug/L	40
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
a,a,a-Trifluorotoluene (TFT)	89	(70 - 130)		

Client Sample ID: MW-20

Lot-Sample #....	E7H090372-002	Work Order #....	J4L3L1AC	Matrix.....	W
Date Sampled....	08/07/07 19:50	Date Received...	08/09/07 18:00	MS Run #.....	7225288
Prep Date.....	08/10/07	Analysis Date...	08/11/07		
Prep Batch #....	7225524	Analysis Time...	06:37		
Dilution Factor:	50				
Analyst ID.....	015590	Instrument ID...	MSN		
		Method.....	SW846 8260B		

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	3000	50	ug/L	15
tert-Butyl alcohol	2300	1200	ug/L	350
1,2-Dichloroethane	68	50	ug/L	20
Ethanol	ND	25000	ug/L	3700
Tert-amyl methyl ether (TAME)	ND	100	ug/L	25
Ethyl-t-Butyl Ether (ETBE)	ND	100	ug/L	25
Ethylbenzene	460	50	ug/L	15
Diisopropyl Ether (DIPE)	ND	100	ug/L	25
Methyl tert-butyl ether (MTBE)	220	50	ug/L	25
Toluene	39 JDX	50	ug/L	15
m-Xylene & p-Xylene	600	50	ug/L	25
o-Xylene	150	50	ug/L	10
Xylenes (total)	740	50	ug/L	10

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
1,2-Dichloroethane-d4	92	(65 - 130)
Toluene-d8	94	(80 - 130)

JDX J= EPA Flag - Estimated value; DX = Value< lowest standard (MQL), but > MDL.

Client Sample ID: MW-20

Lot-Sample #....	E7H090372-002	Work Order #....	J4L3L1AA	Matrix.....	W
Date Sampled....	08/07/07 19:50	Date Received...	08/09/07 18:00	MS Run #.....	7229199
Prep Date.....	08/16/07	Analysis Date...	08/17/07		
Prep Batch #....	7229343	Analysis Time...	04:48		
Dilution Factor:	2				
Analyst ID.....	001464	Instrument ID...	G15		
		Method.....	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
GRO (C4 - C12)	5800	200	ug/L	80
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
a,a,a-Trifluorotoluene (TFT)	92	(70 - 130)		

Client Sample ID: TB-5110-20070807A

Lot-Sample #....	E7H090372-003	Work Order #....	J4L3N1AC	Matrix.....	W
Date Sampled....	08/07/07 15:03	Date Received...	08/09/07 18:00	MS Run #.....	7227311
Prep Date.....	08/14/07	Analysis Date...	08/15/07		
Prep Batch #....	7227568	Analysis Time...	01:08		
Dilution Factor:	1				
Analyst ID.....	015590	Instrument ID...	MSN		
		Method.....	SW846 8260B		

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
tert-Butyl alcohol	ND	25	ug/L	7.0
1,2-Dichloroethane	ND	1.0	ug/L	0.40
Ethanol	ND	500	ug/L	74
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L	0.50
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.30
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	0.50
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L	0.50
Toluene	ND	1.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20
Xylenes (total)	ND	1.0	ug/L	0.20
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene	85	(75 - 120)		
1,2-Dichloroethane-d4	94	(65 - 130)		
Toluene-d8	95	(80 - 130)		

Client Sample ID: TB-5110-20070807A

Lot-Sample #....	E7H090372-003	Work Order #....	J4L3N1AA	Matrix.....	W
Date Sampled....	08/07/07 15:03	Date Received...	08/09/07 18:00	MS Run #.....	7225248
Prep Date.....	08/11/07	Analysis Date...	08/11/07		
Prep Batch #....	7225455	Analysis Time...	11:34		
Dilution Factor:	1				
Analyst ID.....	001464	Instrument ID...	G15		
		Method.....	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
GRO (C4 - C12)	ND	100	ug/L	40
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
a,a,a-Trifluorotoluene (TFT)	76	(70 - 130)		

Client Sample ID: FB-5110-20070807

Lot-Sample #....	E7H090372-004	Work Order #....	J4L3Q1AC	Matrix.....	W
Date Sampled....	08/07/07 15:50	Date Received...	08/09/07 18:00	MS Run #.....	7227311
Prep Date.....	08/14/07	Analysis Date...	08/15/07		
Prep Batch #....	7227568	Analysis Time...	01:32		
Dilution Factor:	1				
Analyst ID.....	015590	Instrument ID...	MSN		
		Method.....	SW846 8260B		

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Benzene	ND	1.0	ug/L	0.30
tert-Butyl alcohol	ND	25	ug/L	7.0
1,2-Dichloroethane	ND	1.0	ug/L	0.40
Ethanol	ND	500	ug/L	74
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L	0.50
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L	0.50
Ethylbenzene	ND	1.0	ug/L	0.30
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	0.50
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L	0.50
Toluene	ND	1.0	ug/L	0.30
m-Xylene & p-Xylene	ND	1.0	ug/L	0.50
o-Xylene	ND	1.0	ug/L	0.20
Xylenes (total)	ND	1.0	ug/L	0.20
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene	84	(75 - 120)		
1,2-Dichloroethane-d4	96	(65 - 130)		
Toluene-d8	96	(80 - 130)		

Client Sample ID: FB-5110-20070807

Lot-Sample #....	E7H090372-004	Work Order #....	J4L3Q1AA	Matrix.....	W
Date Sampled....	08/07/07 15:50	Date Received...	08/09/07 18:00	MS Run #.....	7225248
Prep Date.....	08/11/07	Analysis Date...	08/11/07		
Prep Batch #....	7225455	Analysis Time...	12:04		
Dilution Factor:	1				
Analyst ID.....	001464	Instrument ID...	G15		
		Method.....	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS	MDL
GRO (C4 - C12)	ND	100	ug/L	40
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
a,a,a-Trifluorotoluene (TFT)	78	(70 - 130)		

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: E7H090372
MB Lot-Sample #: E7H130000-524

Work Order #....: J4Q601AA

Matrix.....: WATER

Analysis Date...: 08/10/07

Prep Date.....: 08/10/07

Analysis Time...: 20:54

Dilution Factor: 1

Prep Batch #....: 7225524

Instrument ID...: MSN

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	1.0	ug/L	SW846 8260B
tert-Butyl alcohol	ND	25	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Ethanol	ND	500	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	2.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	2.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	1.0	ug/L	SW846 8260B
(MTBE)				
Toluene	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
SURROGATE	PERCENT		RECOVERY	
	RECOVERY		LIMITS	
Bromofluorobenzene	85		(75 - 120)	
1,2-Dichloroethane-d4	91		(65 - 130)	
Toluene-d8	93		(80 - 130)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #....: E7H090372
MB Lot-Sample #: E7H150000-568

Work Order #....: J4X7T1AA

Matrix.....: WATER

Analysis Date...: 08/14/07

Prep Date.....: 08/14/07

Analysis Time...: 21:57

Dilution Factor: 1

Prep Batch #....: 7227568

Instrument ID...: MSN

Analyst ID.....: 015590

PARAMETER	RESULT	REPORTING		METHOD
		LIMIT	UNITS	
Benzene	ND	1.0	ug/L	SW846 8260B
tert-Butyl alcohol	ND	25	ug/L	SW846 8260B
1,2-Dichloroethane	ND	1.0	ug/L	SW846 8260B
Ethanol	ND	500	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	2.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	2.0	ug/L	SW846 8260B
Ethylbenzene	ND	1.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	SW846 8260B
Methyl tert-butyl ether	ND	1.0	ug/L	SW846 8260B
(MTBE)				
Toluene	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
SURROGATE	PERCENT		RECOVERY	
	RECOVERY		LIMITS	
Bromofluorobenzene	87		(75 - 120)	
1,2-Dichloroethane-d4	98		(65 - 130)	
Toluene-d8	97		(80 - 130)	

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #....: E7H090372
MB Lot-Sample #: E7H130000-455

Work Order #....: J4QXE1AA

Matrix.....: WATER

Analysis Date...: 08/11/07
Dilution Factor: 1

Prep Date.....: 08/11/07

Prep Batch #....: 7225455

Analysis Time...: 05:40

Instrument ID...: G15

Analyst ID.....: 001464

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
GRO (C4 - C12)	ND	100	ug/L	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	72	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J44L11AA Matrix.....: WATER
MB Lot-Sample #: E7H170000-343
Prep Date.....: 08/16/07 Analysis Time...: 17:25
Analysis Date...: 08/16/07 Prep Batch #....: 7229343 Instrument ID...: G15
Dilution Factor: 1
Analyst ID.....: 001464

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u>	<u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
GRO (C4 - C12)	ND	100	ug/L	SW846	8015B

<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>
	<u>RECOVERY</u>	<u>LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	74	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4Q601AC Matrix.....: WATER
 LCS Lot-Sample#: E7H130000-524
 Prep Date.....: 08/10/07 Analysis Date...: 08/10/07
 Prep Batch #....: 7225524 Analysis Time...: 20:06
 Dilution Factor: 1 Instrument ID...: MSN
 Analyst ID.....: 015590

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	87	(75 - 120)	SW846 8260B
tert-Butyl alcohol	101	(50 - 150)	SW846 8260B
1,2-Dichloroethane	85	(70 - 130)	SW846 8260B
Ethanol	99	(20 - 150)	SW846 8260B
Tert-amyl methyl ether (T	88	(70 - 130)	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	89	(70 - 130)	SW846 8260B
Ethylbenzene	97	(70 - 130)	SW846 8260B
Diisopropyl Ether (DIPE)	90	(70 - 130)	SW846 8260B
Methyl tert-butyl ether (MTBE)	89	(70 - 130)	SW846 8260B
Toluene	97	(80 - 120)	SW846 8260B
m-Xylene & p-Xylene	98	(70 - 130)	SW846 8260B
o-Xylene	98	(70 - 130)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 120)
1,2-Dichloroethane-d4	93	(65 - 130)
Toluene-d8	98	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4Q601AC Matrix.....: WATER
 LCS Lot-Sample#: E7H130000-524
 Prep Date.....: 08/10/07 Analysis Date...: 08/10/07
 Prep Batch #....: 7225524 Analysis Time...: 20:06
 Dilution Factor: 1 Instrument ID...: MSN
 Analyst ID.....: 015590

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	10.0	8.67	ug/L	87	SW846 8260B
tert-Butyl alcohol	50.0	50.4	ug/L	101	SW846 8260B
1,2-Dichloroethane	10.0	8.48	ug/L	85	SW846 8260B
Ethanol	2000	1970	ug/L	99	SW846 8260B
Tert-amyl methyl ether (T	10.0	8.77	ug/L	88	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	10.0	8.86	ug/L	89	SW846 8260B
Ethylbenzene	10.0	9.74	ug/L	97	SW846 8260B
Diisopropyl Ether (DIPE)	10.0	8.96	ug/L	90	SW846 8260B
Methyl tert-butyl ether (MTBE)	10.0	8.93	ug/L	89	SW846 8260B
Toluene	10.0	9.68	ug/L	97	SW846 8260B
m-Xylene & p-Xylene	20.0	19.7	ug/L	98	SW846 8260B
o-Xylene	10.0	9.83	ug/L	98	SW846 8260B
SURROGATE		PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene		94	(75 - 120)		
1,2-Dichloroethane-d4		93	(65 - 130)		
Toluene-d8		98	(80 - 130)		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4X7T1AC Matrix.....: WATER
 LCS Lot-Sample#: E7H150000-568
 Prep Date.....: 08/14/07 Analysis Date...: 08/14/07
 Prep Batch #....: 7227568 Analysis Time...: 21:09
 Dilution Factor: 1 Instrument ID...: MSN
 Analyst ID.....: 015590

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
Benzene	90	(75 - 120)	SW846 8260B
tert-Butyl alcohol	111	(50 - 150)	SW846 8260B
1,2-Dichloroethane	89	(70 - 130)	SW846 8260B
Ethanol	117	(20 - 150)	SW846 8260B
Tert-amyl methyl ether (T	90	(70 - 130)	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	92	(70 - 130)	SW846 8260B
Ethylbenzene	108	(70 - 130)	SW846 8260B
Diisopropyl Ether (DIPE)	96	(70 - 130)	SW846 8260B
Methyl tert-butyl ether (MTBE)	92	(70 - 130)	SW846 8260B
Toluene	104	(80 - 120)	SW846 8260B
m-Xylene & p-Xylene	109	(70 - 130)	SW846 8260B
o-Xylene	104	(70 - 130)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	99	(75 - 120)
1,2-Dichloroethane-d4	98	(65 - 130)
Toluene-d8	108	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4X7T1AC Matrix.....: WATER
 LCS Lot-Sample#: E7H150000-568
 Prep Date.....: 08/14/07 Analysis Date...: 08/14/07
 Prep Batch #....: 7227568 Analysis Time...: 21:09
 Dilution Factor: 1 Instrument ID...: MSN
 Analyst ID.....: 015590

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	10.0	9.04	ug/L	90	SW846 8260B
tert-Butyl alcohol	50.0	55.7	ug/L	111	SW846 8260B
1,2-Dichloroethane	10.0	8.90	ug/L	89	SW846 8260B
Ethanol	2000	2340	ug/L	117	SW846 8260B
Tert-amyl methyl ether (T	10.0	9.01	ug/L	90	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	10.0	9.15	ug/L	92	SW846 8260B
Ethylbenzene	10.0	10.8	ug/L	108	SW846 8260B
Diisopropyl Ether (DIPE)	10.0	9.63	ug/L	96	SW846 8260B
Methyl tert-butyl ether (MTBE)	10.0	9.24	ug/L	92	SW846 8260B
Toluene	10.0	10.4	ug/L	104	SW846 8260B
m-Xylene & p-Xylene	20.0	21.9	ug/L	109	SW846 8260B
o-Xylene	10.0	10.4	ug/L	104	SW846 8260B
SURROGATE		PERCENT RECOVERY	RECOVERY LIMITS		
Bromofluorobenzene		99	(75 - 120)		
1,2-Dichloroethane-d4		98	(65 - 130)		
Toluene-d8		108	(80 - 130)		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J4QXE1AC Matrix.....: WATER
 LCS Lot-Sample#: E7H130000-455
 Prep Date.....: 08/11/07 Analysis Date...: 08/11/07
 Prep Batch #....: 7225455 Analysis Time...: 06:10
 Dilution Factor: 1 Instrument ID...: G15
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
GRO (C4 - C12)	98 LW	(70 - 140)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	107	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J4QXE1AC Matrix.....: WATER
 LCS Lot-Sample#: E7H130000-455
 Prep Date.....: 08/11/07 Analysis Date...: 08/11/07
 Prep Batch #....: 7225455 Analysis Time...: 06:10
 Dilution Factor: 1 Instrument ID...: G15
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>UNITS</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>METHOD</u>
GRO (C4 - C12)	1000	982 LW	ug/L	98	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	107	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J44L11AC Matrix.....: WATER
 LCS Lot-Sample#: E7H170000-343
 Prep Date.....: 08/16/07 Analysis Date...: 08/16/07
 Prep Batch #....: 7229343 Analysis Time...: 17:54
 Dilution Factor: 1 Instrument ID...: G15
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>	<u>METHOD</u>
GRO (C4 - C12)	96 LW	(70 - 140)	SW846 8015B

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	<u>RECOVERY LIMITS</u>
a,a,a-Trifluorotoluene (TFT)	106	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J44L11AC Matrix.....: WATER
 LCS Lot-Sample#: E7H170000-343
 Prep Date.....: 08/16/07 Analysis Date...: 08/16/07
 Prep Batch #....: 7229343 Analysis Time...: 17:54
 Dilution Factor: 1 Instrument ID...: G15
 Analyst ID.....: 001464

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
GRO (C4 - C12)	1000	958 LW	ug/L	96	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	106	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4KJP1AF-MS Matrix.....: WATER
 MS Lot-Sample #: E7H090371-001 J4KJP1AG-MSD
 Date Sampled....: 08/09/07 09:30 Date Received...: 08/09/07 18:00 MS Run #.....: 7225288
 Prep Date.....: 08/10/07 Analysis Date...: 08/10/07
 Prep Batch #....: 7225524 Analysis Time...: 23:22
 Dilution Factor: 1 Analyst ID.....: 015590 Instrument ID...: MSN

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	90	(75 - 120)			SW846 8260B
	90	(75 - 120)	0.44	(0-25)	SW846 8260B
tert-Butyl alcohol	111	(50 - 150)			SW846 8260B
	106	(50 - 150)	4.4	(0-35)	SW846 8260B
1,2-Dichloroethane	88	(70 - 130)			SW846 8260B
	86	(70 - 130)	1.8	(0-30)	SW846 8260B
Ethanol	105	(20 - 150)			SW846 8260B
	111	(20 - 150)	5.5	(0-50)	SW846 8260B
Tert-amyl methyl ether (T	91	(70 - 130)			SW846 8260B
	90	(70 - 130)	0.99	(0-30)	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	92	(70 - 130)			SW846 8260B
	90	(70 - 130)	1.3	(0-30)	SW846 8260B
Ethylbenzene	99	(70 - 130)			SW846 8260B
	102	(70 - 130)	3.1	(0-30)	SW846 8260B
Diisopropyl Ether (DIPE)	93	(70 - 130)			SW846 8260B
	92	(70 - 130)	1.4	(0-30)	SW846 8260B
Methyl tert-butyl ether	93	(70 - 130)			SW846 8260B
(MTBE)					
	92	(70 - 130)	1.9	(0-30)	SW846 8260B
Toluene	97	(80 - 120)			SW846 8260B
	101	(80 - 120)	4.4	(0-25)	SW846 8260B
m-Xylene & p-Xylene	99	(70 - 130)			SW846 8260B
	102	(70 - 130)	2.6	(0-30)	SW846 8260B
o-Xylene	98	(70 - 130)			SW846 8260B
	102	(70 - 130)	4.2	(0-30)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
	96	(75 - 120)
1,2-Dichloroethane-d4	93	(65 - 130)
	95	(65 - 130)
Toluene-d8	96	(80 - 130)
	100	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4KJP1AF-MS Matrix.....: WATER
 MS Lot-Sample #: E7H090371-001 J4KJP1AG-MSD
 Date Sampled....: 08/09/07 09:30 Date Received...: 08/09/07 18:00 MS Run #.....: 7225288
 Prep Date.....: 08/10/07 Analysis Date...: 08/10/07
 Prep Batch #....: 7225524 Analysis Time...: 23:22
 Dilution Factor: 1 Analyst ID.....: 015590 Instrument ID...: MSN

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	ND	10.0	9.02	ug/L	90		SW846 8260B
	ND	10.0	8.98	ug/L	90	0.44	SW846 8260B
tert-Butyl alcohol	ND	50.0	55.3	ug/L	111		SW846 8260B
	ND	50.0	52.9	ug/L	106	4.4	SW846 8260B
1,2-Dichloroethane	ND	10.0	8.80	ug/L	88		SW846 8260B
	ND	10.0	8.64	ug/L	86	1.8	SW846 8260B
Ethanol	ND	2000	2100	ug/L	105		SW846 8260B
	ND	2000	2220	ug/L	111	5.5	SW846 8260B
Tert-amyl methyl ether (T	ND	10.0	9.08	ug/L	91		SW846 8260B
	ND	10.0	8.99	ug/L	90	0.99	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	10.0	9.16	ug/L	92		SW846 8260B
	ND	10.0	9.04	ug/L	90	1.3	SW846 8260B
Ethylbenzene	ND	10.0	9.94	ug/L	99		SW846 8260B
	ND	10.0	10.2	ug/L	102	3.1	SW846 8260B
Diisopropyl Ether (DIPE)	ND	10.0	9.28	ug/L	93		SW846 8260B
	ND	10.0	9.15	ug/L	92	1.4	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	10.0	9.33	ug/L	93		SW846 8260B
	ND	10.0	9.15	ug/L	92	1.9	SW846 8260B
Toluene	ND	10.0	9.70	ug/L	97		SW846 8260B
	ND	10.0	10.1	ug/L	101	4.4	SW846 8260B
m-Xylene & p-Xylene	ND	20.0	19.9	ug/L	99		SW846 8260B
	ND	20.0	20.4	ug/L	102	2.6	SW846 8260B
o-Xylene	ND	10.0	9.75	ug/L	98		SW846 8260B
	ND	10.0	10.2	ug/L	102	4.2	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
	96	(75 - 120)
1,2-Dichloroethane-d4	93	(65 - 130)
	95	(65 - 130)
Toluene-d8	96	(80 - 130)
	100	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4NH81AD-MS Matrix.....: WATER
 MS Lot-Sample #: E7H100431-002 J4NH81AE-MSD
 Date Sampled....: 08/10/07 09:40 Date Received...: 08/10/07 15:30 MS Run #.....: 7227311
 Prep Date.....: 08/14/07 Analysis Date...: 08/14/07
 Prep Batch #....: 7227568 Analysis Time...: 23:33
 Dilution Factor: 1 Analyst ID.....: 015590 Instrument ID...: MSN

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
Benzene	90	(75 - 120)			SW846 8260B
	89	(75 - 120)	1.3	(0-25)	SW846 8260B
tert-Butyl alcohol	108	(50 - 150)			SW846 8260B
	110	(50 - 150)	2.2	(0-35)	SW846 8260B
1,2-Dichloroethane	88	(70 - 130)			SW846 8260B
	90	(70 - 130)	1.8	(0-30)	SW846 8260B
Ethanol	90	(20 - 150)			SW846 8260B
	118	(20 - 150)	27	(0-50)	SW846 8260B
Tert-amyl methyl ether (T	90	(70 - 130)			SW846 8260B
	93	(70 - 130)	2.7	(0-30)	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	92	(70 - 130)			SW846 8260B
	93	(70 - 130)	1.3	(0-30)	SW846 8260B
Ethylbenzene	102	(70 - 130)			SW846 8260B
	108	(70 - 130)	6.0	(0-30)	SW846 8260B
Diisopropyl Ether (DIPE)	98	(70 - 130)			SW846 8260B
	97	(70 - 130)	0.92	(0-30)	SW846 8260B
Methyl tert-butyl ether	95	(70 - 130)			SW846 8260B
(MTBE)	97	(70 - 130)	2.5	(0-30)	SW846 8260B
Toluene	102	(80 - 120)			SW846 8260B
	103	(80 - 120)	0.58	(0-25)	SW846 8260B
m-Xylene & p-Xylene	107	(70 - 130)			SW846 8260B
	109	(70 - 130)	1.7	(0-30)	SW846 8260B
o-Xylene	105	(70 - 130)			SW846 8260B
	108	(70 - 130)	2.6	(0-30)	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 120)
	96	(75 - 120)
1,2-Dichloroethane-d4	79	(65 - 130)
	81	(65 - 130)
Toluene-d8	103	(80 - 130)
	102	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E7H090372 Work Order #....: J4NH81AD-MS Matrix.....: WATER
 MS Lot-Sample #: E7H100431-002 J4NH81AE-MSD
 Date Sampled....: 08/10/07 09:40 Date Received...: 08/10/07 15:30 MS Run #.....: 7227311
 Prep Date.....: 08/14/07 Analysis Date...: 08/14/07
 Prep Batch #....: 7227568 Analysis Time...: 23:33
 Dilution Factor: 1 Analyst ID.....: 015590 Instrument ID...: MSN

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	ND	10.0	9.02	ug/L	90		SW846 8260B
	ND	10.0	8.90	ug/L	89	1.3	SW846 8260B
tert-Butyl alcohol	ND	50.0	53.8	ug/L	108		SW846 8260B
	ND	50.0	55.0	ug/L	110	2.2	SW846 8260B
1,2-Dichloroethane	ND	10.0	8.85	ug/L	88		SW846 8260B
	ND	10.0	9.01	ug/L	90	1.8	SW846 8260B
Ethanol	ND	2000	1810	ug/L	90		SW846 8260B
	ND	2000	2370	ug/L	118	27	SW846 8260B
Tert-amyl methyl ether (T	ND	10.0	9.03	ug/L	90		SW846 8260B
	ND	10.0	9.28	ug/L	93	2.7	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	10.0	9.16	ug/L	92		SW846 8260B
	ND	10.0	9.28	ug/L	93	1.3	SW846 8260B
Ethylbenzene	ND	10.0	10.2	ug/L	102		SW846 8260B
	ND	10.0	10.8	ug/L	108	6.0	SW846 8260B
Diisopropyl Ether (DIPE)	ND	10.0	9.80	ug/L	98		SW846 8260B
	ND	10.0	9.71	ug/L	97	0.92	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	10.0	9.47	ug/L	95		SW846 8260B
	ND	10.0	9.71	ug/L	97	2.5	SW846 8260B
Toluene	ND	10.0	10.2	ug/L	102		SW846 8260B
	ND	10.0	10.3	ug/L	103	0.58	SW846 8260B
m-Xylene & p-Xylene	ND	20.0	21.4	ug/L	107		SW846 8260B
	ND	20.0	21.8	ug/L	109	1.7	SW846 8260B
o-Xylene	ND	10.0	10.5	ug/L	105		SW846 8260B
	ND	10.0	10.8	ug/L	108	2.6	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 120)
	96	(75 - 120)
1,2-Dichloroethane-d4	79	(65 - 130)
	81	(65 - 130)
Toluene-d8	103	(80 - 130)
	102	(80 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J4KH81AD-MS Matrix.....: WATER
 MS Lot-Sample #: E7H090369-001 J4KH81AE-MSD
 Date Sampled...: 08/09/07 14:05 Date Received...: 08/09/07 18:00 MS Run #.....: 7225248
 Prep Date.....: 08/11/07 Analysis Date...: 08/11/07
 Prep Batch #....: 7225455 Analysis Time...: 08:37
 Dilution Factor: 1 Analyst ID.....: 001464 Instrument ID...: G15

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
GRO (C4 - C12)	71 LW	(70 - 140)			SW846 8015B
	79 LW	(70 - 140)	3.2	(0-25)	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	124	(70 - 130)
	124	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J4KH81AD-MS Matrix.....: WATER
 MS Lot-Sample #: E7H090369-001 J4KH81AE-MSD
 Date Sampled...: 08/09/07 14:05 Date Received...: 08/09/07 18:00 MS Run #.....: 7225248
 Prep Date.....: 08/11/07 Analysis Date...: 08/11/07
 Prep Batch #....: 7225455 Analysis Time...: 08:37
 Dilution Factor: 1 Analyst ID.....: 001464 Instrument ID...: G15

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
GRO (C4 - C12)	1600	1000	2310	ug/L	71 LW		SW846 8015B
	1600	1000	2380	ug/L	79 LW	3.2	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	124	(70 - 130)
	124	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E7H090372 Work Order #....: J4VGT1AD-MS Matrix.....: WATER
 MS Lot-Sample #: E7H140315-001 J4VGT1AE-MSD
 Date Sampled....: 08/14/07 11:40 Date Received...: 08/14/07 17:35 MS Run #.....: 7229199
 Prep Date.....: 08/16/07 Analysis Date...: 08/16/07
 Prep Batch #....: 7229343 Analysis Time...: 23:51
 Dilution Factor: 1 Analyst ID.....: 001464 Instrument ID...: G15

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD
GRO (C4 - C12)	105 LW	(70 - 140)			SW846 8015B
	106 LW	(70 - 140)	0.40	(0-25)	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	116	(70 - 130)
	114	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E7H090372 **Work Order #....:** J4VGT1AD-MS **Matrix.....:** WATER
MS Lot-Sample #: E7H140315-001 J4VGT1AE-MSD
Date Sampled....: 08/14/07 11:40 **Date Received...:** 08/14/07 17:35 **MS Run #.....:** 7229199
Prep Date.....: 08/16/07 **Analysis Date...:** 08/16/07
Prep Batch #....: 7229343 **Analysis Time...:** 23:51
Dilution Factor: 1 **Analyst ID.....:** 001464 **Instrument ID...:** G15

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
GRO (C4 - C12)	760	1000	1810	ug/L	105 LW		SW846 8015B
	760	1000	1820	ug/L	106 LW	0.40	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	116	(70 - 130)
	114	(70 - 130)

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

APPENDIX O

GROUNDWATER SAMPLING AND O&M FIELD DATA SHEETS

Subjective and Well -Head Evaluation Form

Project No.: Q3-2007 GROUNDWATER

Location: South Gate

Date: 8/7/07

Station No.: 5110

Field Technician: JOSE AGUIRRE

Day of Week: TUESDAY

DTW ORDER	WELL ID	SURFICIAL SEAL	CONCRETE SEAL	LID SECURE	GASKET	LOCK	EXPANDING CAP	TOTAL DEPTH (feet)	DEPTH TO WATER (feet)	FLOATING PRODUCT THICKNESS (feet)	DISSOLVED OXYGEN READING (mg/L)	COMMENTS
	MW-A1	G	G	G	G		G	61.40	50.29	N/A	2.9	2"
	MW-A2	G	G	G	G	G	G	56.63	49.53	N/A	3.4	2"
	MW-A3	G	G	G	G	G	G	66.52	50.29	N/A	2.7	4" DUP
	MW-A4	G	G	G	G	G	G	64.81	51.95	N/A	5.6	4"
	MW-A5	G	G	G	G	G	G	64.81	50.05	N/A	4.8	4"
	MW-A6	G	G	G	G	P	G	63.20	49.77	N/A	4.1	4"
	MW-A7	G	G	G	G	G	G	63.61	51.46	N/A	4.2	4"
	MW-A8S	G	G	G	G	G	G	63.60	50.29	N/A	4.3	2"
	MW-A8D	G	G	G	G	G	G	74.80	50.85	N/A	8.9	2"
	MW-19	G	G	G	G	G	G	69.91	50.50	N/A	2.8	4"
	MW-20	G	G	G	G	G	G	71.84	50.00	N/A	3.8	4"

Note: Use G=Good and P=poor for well condition

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A1
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) ② 3 4 6 8 12 OTHER:

DEPTH OF WELL (feet): 64.40	CALCULATED PURGE (gal): 5.55
DEPTH TO WATER (feet): 50.29	ACTUAL PURGE VOL (gal): 5
Standing Water in Casing (feet) 11.11 x 0.20 = 2.22 + DTW 52.51 = 80% Recharge Water Level	
2 (inches)	Standing Water in Casing (feet) x 0.5 = 5.55 3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet) x 2.0 = 3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet) x 4.4 = 3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet) x 7.8 = 3 Casing Volumes (gal.)

Date Purged: 8/7/07 Start (2400 Hr.): 2140 End (2400 Hr.): 2243
 Date Sampled: 8/7/07 Time (2400 Hr.): 2250 DTW @ Samp. Time: 51.78

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) x1000	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2241	2	23.1	1.91	7.1	CLEAR	Light	2
2242	2	23.1	1.92	7.1	CLEAR	Light	4
2243	1	23.2	1.93	7.0	CLEAR	Light	5

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)	2" Bladder Pump	Bailer (Stainless Steel)
Contrifugal Pump	Bailer (PVC)	Submersible Pump	Bailer (Teflon)
Submersible Pump	Bailer (Stainless Steel)	Dipper	Bailer (Disposable Teflon)
Redi-Flo2	Dedicated	Well Wizard	Dedicated
OTHER: VAC TRUCK		OTHER:	

Well Condition (cap, cement, padlock, screws, lid, etc.):		
Floating Product Thickness (feet):	Color:	Padlock Number:
COMMENTS:		

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 ox poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: _____

DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A2
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) ② 3 4 6 8 12 OTHER:

DEPTH OF WELL (feet): 56.63	CALCULATED PURGE (gal): 3.55
DEPTH TO WATER (feet): 49.53	ACTUAL PURGE VOL (gal): 3
Standing Water in Casing (feet) 7.10 x 0.20 = 1.42 + DTW 50.95 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5= 3.55	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0=	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4=	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8=	3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 2115	End (2400 Hr.): 2118
Date Sampled: 8/7/07	Time (2400 Hr.): 2130	DTW @ Samp. Time: 49.59

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (µS/cm) <i>J.A. x1000</i>	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2116	1	23.4	2.20	7.1	CLEAR	LIGHT	1
2117	1	23.4	2.23	7.2	CLEAR	LIGHT	2
2118	1	23.4	2.24	7.2	CLEAR	LIGHT	3

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)
Contrifugal Pump	Bailer (PVC)
Submersible Pump	Bailer (Stainless Steel)
Redi-Flo2	Dedicated

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Stainless Steel)
Submersible Pump	Bailer (Teflon)
Dipper	Bailer (Disposable Teflon)
Well Wizard	Dedicated

OTHER: VAC TRUCK	OTHER:
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Well Condition (cap, cement, padlock, screws, lid, etc.):

Floating Product Thickness (feet): Color: Padlock Number:

COMMENTS:

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: *Andrew M...* DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A3
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) 2 3 (4) 6 8 12 OTHER:

DEPTH OF WELL (feet): 66.52	CALCULATED PURGE (gal): 32.46
DEPTH TO WATER (feet): 50.29	ACTUAL PURGE VOL (gal): 32
Standing Water in Casing (feet) 16.23 x 0.20 = 3.24 + DTW 53.53 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5=	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0= 32.46	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4=	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8=	3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 1735	End (2400 Hr.): 1808
Date Sampled: 8/7/07	Time (2400 Hr.): 1825	DTW @ Samp. Time: 53.55

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1): DUP-5110-20070807

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) x1000	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
1743	11	23.7	1.85	7.2	CLEAR	LIGHT	11
1757	11	23.6	1.86	7.2	CLEAR	LIGHT	22
1808	10	23.7	1.83	7.1	CLEAR	LIGHT	32

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)
Contrifugal Pump	Bailer (PVC)
Submersible Pump	Bailer (Stainless Steel)
Redi-Flo2	Dedicated

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Stainless Steel)
Submersible Pump	Bailer (Teflon)
Dipper	Bailer (Disposable Teflon)
Well Wizard	Dedicated

OTHER: <u>VAC TRUCK</u>	OTHER: .
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Well Condition (cap, cement, padlock, screws, lid, etc.):

Floating Product Thickness (feet): Color: Padlock Number:

COMMENTS:

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: Andrew Mody DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A4
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) 2 3 ④ 6 8 12 OTHER:

DEPTH OF WELL (feet): 64.81	CALCULATED PURGE (gal): 25.72
DEPTH TO WATER (feet): 51.95	ACTUAL PURGE VOL (gal): 25
Standing Water in Casing (feet) 12.86 x 0.20 = 2.57 + DTW 54.52 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5=	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0= 25.72	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4=	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8=	3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 1958	End (2400 Hr.): 2013
Date Sampled: 8/7/07	Time (2400 Hr.): 2025	DTW @ Samp. Time: 52.09

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	EC/cm (µS/cm) x1000	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2002	8	22.7	79.9	7.1	CLEAR	Light	8
2008	8	22.7	79.9	7.1	CLEAR	Light	16
2013	9	22.7	79.9	7.2	CLEAR	Light	25

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)
Contrifugal Pump	Bailer (PVC)
Submersible Pump	Bailer (Stainless Steel)
Redi-Flo2	Dedicated

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Stainless Steel)
Submersible Pump	Bailer (Teflon)
Dipper	Bailer (Disposable Teflon)
Well Wizard	Dedicated

OTHER: VAC TRUCK	OTHER:
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Well Condition (cap, cement, padlock, screws, lid, etc.):		
Floating Product Thickness (feet):	Color:	Padlock Number:
COMMENTS:		

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: _____

DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A5
SAMPLER: JA	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches)

~~3~~ **4** ~~5~~ ~~6~~ ~~8~~ ~~12~~ OTHER:

DEPTH OF WELL (feet): 64.81	CALCULATED PURGE (gal): 29.52
DEPTH TO WATER (feet): 50.05	ACTUAL PURGE VOL (gal): 29
Standing Water in Casing (feet) 14.76 x 0.20 = 2.95 + DTW 53.00 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5 =	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0 = 29.52	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4 =	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8 =	3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 2150	End (2400 Hr.): 2208
Date Sampled: 8/7/07	Time (2400 Hr.): 2220	DTW @ Samp. Time: 50.22

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.Q. S/cm JA 105/cm x1000	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2156	10	23.6	1.79	7.2	CLEAR	LIGHT	10
2202	10	23.6	1.85	7.2	CLEAR	LIGHT	20
2208	9	23.6	1.90	7.2	CLEAR	LIGHT	29

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)	2" Bladder Pump	Bailer (Stainless Steel)
Contrifugal Pump	Bailer (PVC)	Submersible Pump	Bailer (Teflon)
Submersible Pump	Bailer (Stainless Steel)	Dipper	Bailer (Disposable Teflon)
Redi-Flo2	Dedicated	Well Wizard	Dedicated
OTHER: VAC TRUCK		OTHER:	

Well Condition (cap, cement, padlock, screws, lid, etc.):	
Floating Product Thickness (feet):	Color: Padlock Number:
COMMENTS:	

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: Andrew Mark DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.4	SAMPLE ID: MW-A6
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/8/07	LOCATION: South Gate

CASING DIAMETER (inches) 2 3 (4) 6 8 12 OTHER:

DEPTH OF WELL (feet): 63.20	CALCULATED PURGE (gal): 26.86
DEPTH TO WATER (feet): 49.77	ACTUAL PURGE VOL (gal): 26
Standing Water in Casing (feet) 13.43 x 0.20 = 2.68 + DTW 52.45 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5=	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0= 26.86	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4=	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8=	3 Casing Volumes (gal.)

Date Purged: 8/8/07	Start (2400 Hr.): 2352	End (2400 Hr.): 2449
Date Sampled: 8/8/07	Time (2400 Hr.): 2455	DTW @ Samp. Time: 51.09

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) <small>x1000</small>	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2410	9	21.4	0.001	7.7	CLEAR	LIGHT	9
2437	9	21.4	0.002	7.7	CLEAR	LIGHT	18
2449	8	21.4	0.001	7.7	CLEAR	LIGHT	26

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)	2" Bladder Pump	Bailer (Stainless Steel)
Contrifugal Pump	Bailer (PVC)	Submersible Pump	Bailer (Teflon)
Submersible Pump	Bailer (Stainless Steel)	Dipper	Bailer (Disposable Teflon)
Redi-Flo2	Dedicated	Well Wizard	Dedicated

OTHER: VAC TRUCK	OTHER:
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Well Condition (cap, cement, padlock, screws, lid, etc.):		
Floating Product Thickness (feet):	Color:	Padlock Number:

COMMENTS:

40 ml VOA, HCL:	1 liter amber, none:	16 ox poly, HNO3:
WATER LEVEL ONLY. NO SAMPLE COLLECTED:	REVIEWED BY: Andrew M...	DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A7
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) 2 3 (4) 6 8 12 OTHER:

DEPTH OF WELL (feet): 63.61	CALCULATED PURGE (gal): 24.30
DEPTH TO WATER (feet): 51.46	ACTUAL PURGE VOL (gal): 24
Standing Water in Casing (feet) 12.15 x 0.20 = 2.43 + DTW 53.89 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5=	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0= 24.30	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4=	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8=	3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 1650	End (2400 Hr.): 1703
Date Sampled: 8/7/07	Time (2400 Hr.): 1710	DTW @ Samp. Time: 52.11

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) <small>x1000</small>	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
1654	8	24.2	2.27	7.0	CLEAR	Light	8
1659	8	24.3	2.29	7.0	CLEAR	Light	16
1703	8	24.2	2.26	7.0	CLEAR	Light	24

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)	2" Bladder Pump	Bailer (Stainless Steel)
Contrifugal Pump	Bailer (PVC)	Submersible Pump	Bailer (Teflon)
Submersible Pump	Bailer (Stainless Steel)	Dipper	Bailer (Disposable Teflon)
Redi-Flo2	Dedicated	Well Wizard	Dedicated
OTHER: VAC TRUCK		OTHER:	

Well Condition (cap, cement, padlock, screws, lid, etc.):		
Floating Product Thickness (feet):	Color:	Padlock Number:
COMMENTS:		

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: Andrew Masch DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110.41	SAMPLE ID: MW-A8S
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) (2) 3 4 6 8 12 OTHER:

DEPTH OF WELL (feet): 63.60	CALCULATED PURGE (gal): 6.65
DEPTH TO WATER (feet): 50.29	ACTUAL PURGE VOL (gal): 4
Standing Water in Casing (feet) 13.31 $\times 0.20 = 2.66$ + DTW 52.95 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5=	6.65	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0=		3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4=		3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8=		3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 2310	End (2400 Hr.): 2313
Date Sampled: 8/7/07	Time (2400 Hr.): 2320	DTW @ Samp. Time: 57.87

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) <small>$\times 1000$</small>	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2311	2	23.7	1.89	7.4	CLEAR	LIGHT	2
2312	2	23.8	1.87	7.4	CLEAR	LIGHT	4
2313	2	23.8	1.90	7.4	CLEAR	LIGHT	6

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)
Contrifugal Pump	Bailer (PVC)
Submersible Pump	Bailer (Stainless Steel)
Redi-Flo2	<u>Dedicated</u>

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Stainless Steel)
Submersible Pump	Bailer (Teflon)
Dipper	Bailer (Disposable Teflon)
Well Wizard	Dedicated

OTHER: <u>VAC TRUCK</u>	OTHER:
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Well Condition (cap, cement, padlock, screws, lid, etc.):

Floating Product Thickness (feet): Color: Padlock Number:

COMMENTS:

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: Andrew Moody DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

ATLANTIC
RICHFIELD
COMPANY

PROJECT NO: 37BP.05110. 41	SAMPLE ID: MW-A8D
SAMPLER: J.A	FACILITY NO: 5110
DATE: 8/7/07	LOCATION: South Gate

CASING DIAMETER (inches) ② 3 4 6 8 12 OTHER:

DEPTH OF WELL (feet): 74.80	CALCULATED PURGE (gal): 11.47
DEPTH TO WATER (feet): 50.85	ACTUAL PURGE VOL (gal): 11
Standing Water in Casing (feet) 23.95 x 0.20 = 4.79 + DTW 55.64 = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5 = 11.97	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0 =	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4 =	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8 =	3 Casing Volumes (gal.)

Date Purged: 8/7/07	Start (2400 Hr.): 2325	End (2400 Hr.): 2331
Date Sampled: 8/7/07	Time (2400 Hr.): 2335	DTW @ Samp. Time: 52.27

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) <small>x1000</small>	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
2327	4	24.1	2.02	7.3	CLEAR	LIGHT	4
2329	4	24.2	2.03	7.3	CLEAR	LIGHT	8
2331	3	24.2	2.03	7.3	CLEAR	LIGHT	11

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)
Contrifugal Pump	Bailer (PVC)
Submersible Pump	Bailer (Stainless Steel)
Redi-Flo2	<u>Dedicated</u>

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Stainless Steel)
Submersible Pump	Bailer (Teflon)
Dipper	<u>Bailer (Disposable Teflon)</u>
Well Wizard	Dedicated

OTHER: <u>VAC TRUCK</u>	OTHER:
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Well Condition (cap, cement, padlock, screws, lid, etc.):

Floating Product Thickness (feet): Color: Padlock Number:

COMMENTS:

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: Richard Moody DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

PROJECT NO: <u>318.05110.41</u>	SAMPLE ID: <u>MN-19</u>
SAMPLER: <u>J.A</u>	FACILITY NO: <u>0031</u>
DATE: <u>8/7/07</u>	LOCATION: <u>BP VINALE</u>

CASING DIAMETER (inches) 2 3 (4) 6 8 12 OTHER:

DEPTH OF WELL (feet): <u>69.91</u>	CALCULATED PURGE (gal): <u>38.82</u>	
DEPTH TO WATER (feet): <u>50.50</u>	ACTUAL PURGE VOL (gal): <u>39</u>	
Standing Water in Casing (feet) <u>19.41</u> x 0.20 = <u>3.88</u> + DTW <u>54.38</u> = 80% Recharge Water Level		
2 (inches)	Standing Water in Casing (feet) x 0.5 =	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet) x 2.0 = <u>38.82</u>	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet) x 4.4 =	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet) x 7.8 =	3 Casing Volumes (gal.)

Date Purged: 8/7/07 Start (2400 Hr.): 1537 End (2400 Hr.): 1618
 Date Sampled: 8/7/07 Time (2400 Hr.): 52.1630 DTW @ Samp. Time: 52.23

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1): FB-5710-20070807

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	EC ($\mu\text{mhos/cm}$) <small>X1000</small>	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
<u>1550</u>	<u>13</u>	<u>22.2</u>	<u>2.24</u>	<u>7.0</u>	<u>CLEAR</u>	<u>LIGHT</u>	<u>13</u>
<u>1603</u>	<u>13</u>	<u>22.2</u>	<u>2.28</u>	<u>7.1</u>	<u>CLEAR</u>	<u>LIGHT</u>	<u>26</u>
<u>1618</u>	<u>13</u>	<u>22.2</u>	<u>2.30</u>	<u>7.1</u>	<u>CLEAR</u>	<u>LIGHT</u>	<u>39</u>

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)
Contrifugal Pump	Bailer (PVC)
Submersible Pump	Bailer (Stainless Steel)
Redi-Flo2	Dedicated

SAMPLING EQUIPMENT

2" Bladder Pump	Bailer (Stainless Steel)
Submersible Pump	Bailer (Teflon)
Dipper	Bailer (Disposable Teflon)
Well Wizard	Dedicated

OTHER: VAC TRUCK OTHER:

Well Condition (cap, cement, padlock, screws, lid, etc.):

Floating Product Thickness (feet): Color: Padlock Number:

COMMENTS: 13 gallons = D.O = 2.7
26 gallons D.O = 2.9
39 gallons D.O = 2.9

40 ml VOA, HCL: _____

1 liter amber, none: _____

16 oz poly, HNO3: _____

WATER LEVEL ONLY. NO SAMPLE COLLECTED: _____

REVIEWED BY: Andrew Moody

DATE: 8/21/07

GROUNDWATER SAMPLE FIELD DATA SHEET

PROJECT NO: <u>3788.05110.41</u>	SAMPLE ID: <u>MW-20</u>
SAMPLER: <u>J-A</u>	FACILITY NO: <u>5110</u>
DATE: <u>8/7/07</u>	LOCATION: <u>BP VINVALE</u>

CASING DIAMETER (inches) 2 3 **④** 6 8 12 OTHER:

DEPTH OF WELL (feet): <u>71.84</u>	CALCULATED PURGE (gal): <u>43.68</u>
DEPTH TO WATER (feet): <u>50.00</u>	ACTUAL PURGE VOL (gal): <u>43</u>
Standing Water in Casing (feet) <u>21.84</u> x 0.20 = <u>4.36</u> + DTW <u>54.36</u> = 80% Recharge Water Level	

2 (inches)	Standing Water in Casing (feet)	x 0.5 =	3 Casing Volumes (gal.)
4 (inches)	Standing Water in Casing (feet)	x 2.0 = <u>43.68</u>	3 Casing Volumes (gal.)
6 (inches)	Standing Water in Casing (feet)	x 4.4 =	3 Casing Volumes (gal.)
8 (inches)	Standing Water in Casing (feet)	x 7.8 =	3 Casing Volumes (gal.)

Date Purged: 8/7/07 Start (2400 Hr.): 1900 End (2400 Hr.): 1942
 Date Sampled: 8/7/07 Time (2400 Hr.): 1950 DTW @ Samp. Time: 52.21

FIELD QC SAMPLES COLLECTED AT THIS WELL (IE: FB-1, X-DUP-1):

TIME (2400 Hr.)	VOLUME (gallons)	TEMP (degrees F)	E.C. (uS/cm) x1000	pH (units)	COLOR (visual)*	TURBIDITY (visual)**	TOTALIZE (gallons)
<u>1914</u>	<u>14</u>	<u>22.8</u>	<u>>9.9</u>	<u>7.1</u>	<u>CLEAR</u>	<u>LIGHT</u>	<u>14</u>
<u>1928</u>	<u>14</u>	<u>22.8</u>	<u>>9.9</u>	<u>7.1</u>	<u>CLEAR</u>	<u>LIGHT</u>	<u>28</u>
<u>1942</u>	<u>15</u>	<u>22.8</u>	<u>>9.9</u>	<u>7.2</u>	<u>CLEAR</u>	<u>LIGHT</u>	<u>43</u>

* (Color) Clear, Cloudy, Yellow, Brown ** (Turbidity) Heavy, Moderate, Light, Trace

PURGING EQUIPMENT

2" Bladder Pump	Bailer (Teflon)	2" Bladder Pump	Bailer (Stainless Steel)
Contrifugal Pump	Bailer (PVC)	Submersible Pump	Bailer (Teflon)
Submersible Pump	Bailer (Stainless Steel)	Dipper	Bailer (Disposable Teflon)
Redi-Flo2	<u>Dedicated</u>	Well Wizard	<u>Dedicated</u>

SAMPLING EQUIPMENT

OTHER: <u>VAC TRUCK</u>	OTHER:
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Well Condition (cap, cement, padlock, screws, lid, etc.):

Floating Product Thickness (feet):	Color:	Padlock Number:
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COMMENTS: <u>14 gallons</u>	D.O. = <u>3.7</u>	
<u>28 gallons</u>	D.O. = <u>3.9</u>	
<u>43 gallons</u>	D.O. = <u>3.7</u>	

40 ml VOA, HCL:

1 liter amber, none:

16 oz poly, HNO3:

WATER LEVEL ONLY. NO SAMPLE COLLECTED:

REVIEWED BY:

DATE:

DAILY FIELD LOG

Project Name: ARCO 5110

Project Address: 5731 East Firestone Boulevard, South Gate, CA

Company: Secor International Inc.

Technician: John Boren

Date: 9/26/07

Time: N.A.

Description of Tasks Completed:

System was shut off on 5/30/07 due to high VOC concentrations in the influent and midpoint samples.

The Vapor-Phase Carbon Adsorption system was removed on July 30, 2007.

On July 17, 2007 SECOR submitted a new application to the AQMD for review and issuance of the permit under the modified conditions. Once the new Site-Specific permit is issued by the AQMD the system will be started.

APPENDIX P

WASTE DISPOSAL DOCUMENTS

NON-HAZARDOUS WASTE DATA FORM

NO. 32658

TO BE COMPLETED BY GENERATOR

GENERATING SITE

NAME **BP West Coast Products LLC**

ARCO STATION # **5110**

ADDRESS **P.O. Box 80249**

CITY: **South Gate**

CITY, STATE, ZIP **Rancho Santa Margarita, CA 92688**

PHONE NO. **(949) 753-5820**

SITE CONTACT

PROFILE NO.

CONTAINERS: No. **1**

GALLONS

243 Gallons

WEIGHT

TYPE:



TANK TRUCK



DUMP TRUCK



DRUMS



CARTONS



OTHER

WASTE DESCRIPTION **NON-HAZARDOUS WATER**

COMPONENTS OF WASTE

PPM

%

GENERATING PROCESS

GROUNDWATER SAMPLING

COMPONENTS OF WASTE

PPM

%

1. **WATER** **99-100%**

4.

2. **TPH** **< 1%**

5.

3.

6.

BESI# 142588

PROPERTIES

pH

7



SOLID



LIQUID



SLUDGE



SLURRY



OTHER

HANDLING INSTRUCTIONS:

WEAR APPROPRIATE PROTECTIVE CLOTHING

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS

Larry Mothart as Agent of BP West Coast Products LLC

8/7/07

DATE

TRANSPORTER

NAME

NIETO AND SONS TRUCKING, INC.

EPA I.D. NO.

ADDRESS

1281 BREA CANYON ROAD

SERVICE ORDER NO.

CITY, STATE, ZIP

BREA, CALIFORNIA 92821

PICK UP DATE

PHONE NO.

(714) 990-6855

TYPED OR PRINTED FULL NAME & SIGNATURE

DATE

TRUCK, UNIT, I.D. NO.

EPA I.D. NO.

CAT080013352

DISPOSAL METHOD



LANDFILL



RECYCLER

Recycler

NAME

DeMenno Kerdoon

ADDRESS

2000 N. Alameda Street

CITY, STATE, ZIP

Compton, CA 90222

PHONE NO.

310-537-7100

FAC#

05110

ID#

313317

TYPED OR PRINTED FULL NAME & SIGNATURE

DATE

GEN

OLD/NEW

L

A

TONS

TRANS

S

B

C/Q

RT/CD

HWDF

NONE

DISCREPANCY

TSD FACILITY